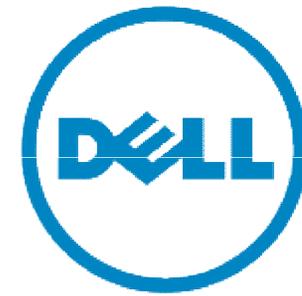
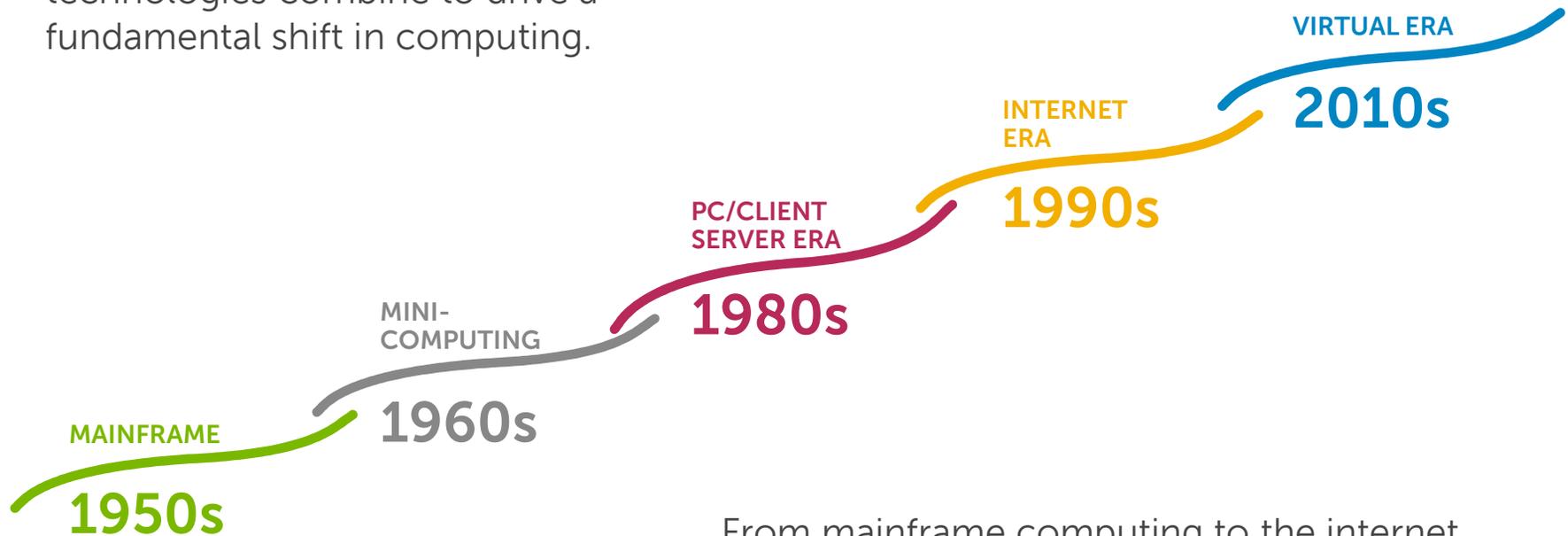


The Efficient Enterprise



We are in the Virtual Era

It happens about every 15 years or so.
New demands and innovative
technologies combine to drive a
fundamental shift in computing.



From mainframe computing to the internet age, the possibilities made real by new technologies build to a critical point that forces us to rethink the way we work and redefine technology in the enterprise.



Dell is leading the Virtual Era



1 BILLION
PEOPLE
CONNECTED
THROUGH THE
"CLOUD" BY DELL

#1

iSCSI STORAGE
SOLUTION
PROVIDER

\$100M+
SAVED BY DELL IT IN OVER 2
YEARS WITH VIRTUALIZATION



TBR 2009 SUSTAINABILITY INDEX

100+
BUSINESS READY CONFIGS

17
OF THE
WORLD'S TOP
SUPERCOMPUTERS
RUN ON DELL

3 OF
THE TOP 5

INTERNET SEARCH ENGINES
RUN ON DELL INFRASTRUCTURE

41K+

SERVICES
PROFESSIONALS

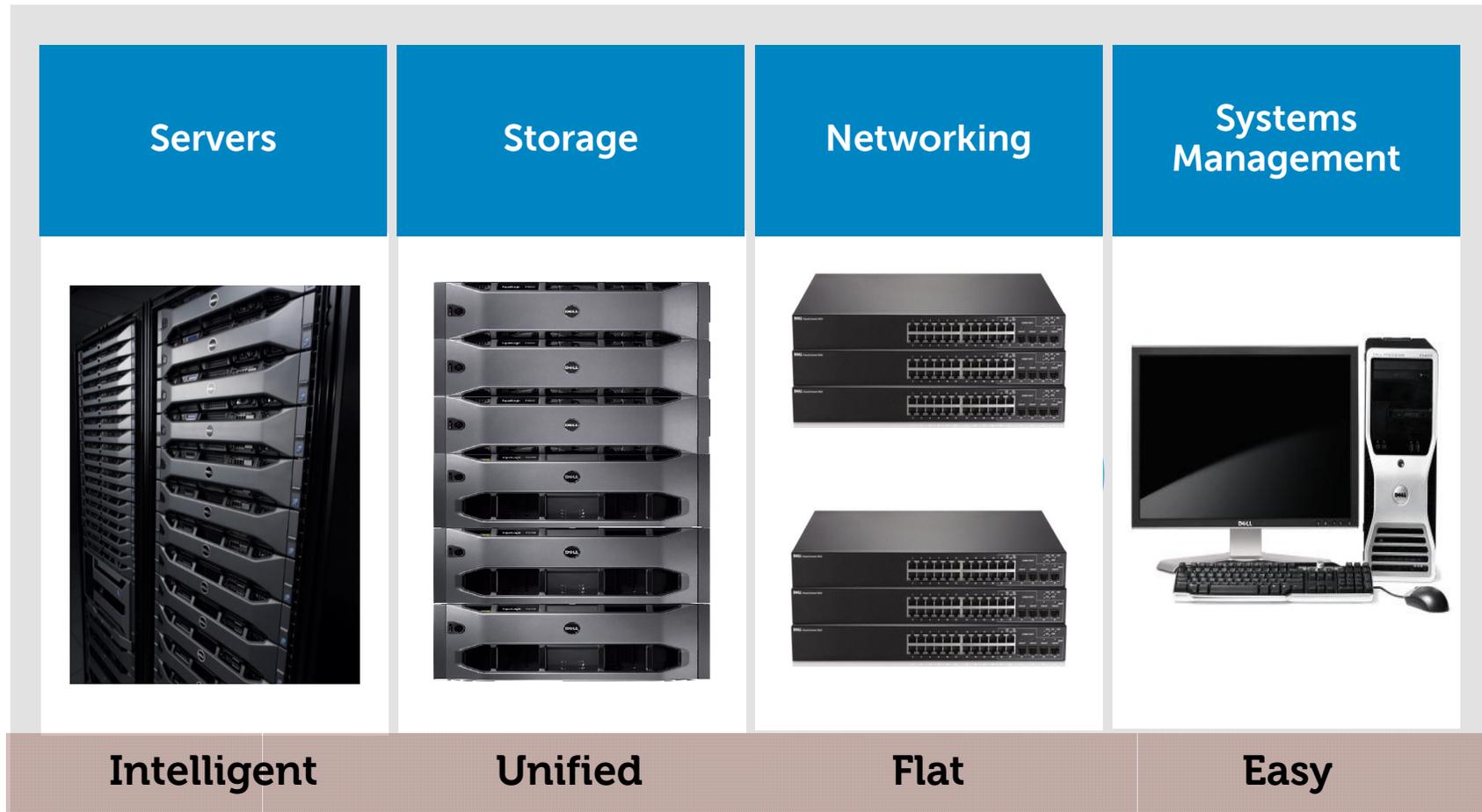
48M

TONS OF CO2 EMISSIONS HAVE
BEEN AVOIDED BY CUSTOMERS
USING DELL SOLUTIONS

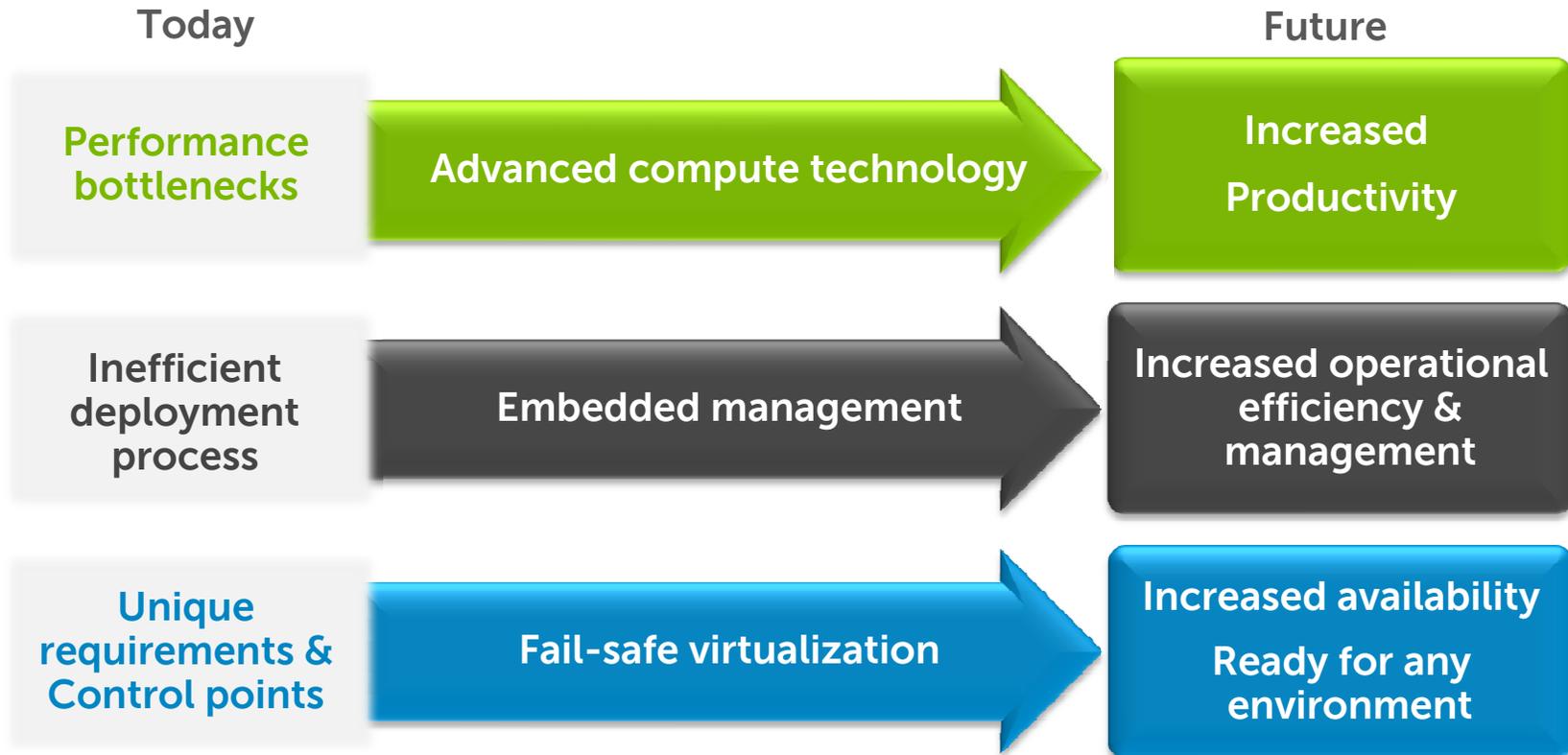


Infrastructure solution opportunities

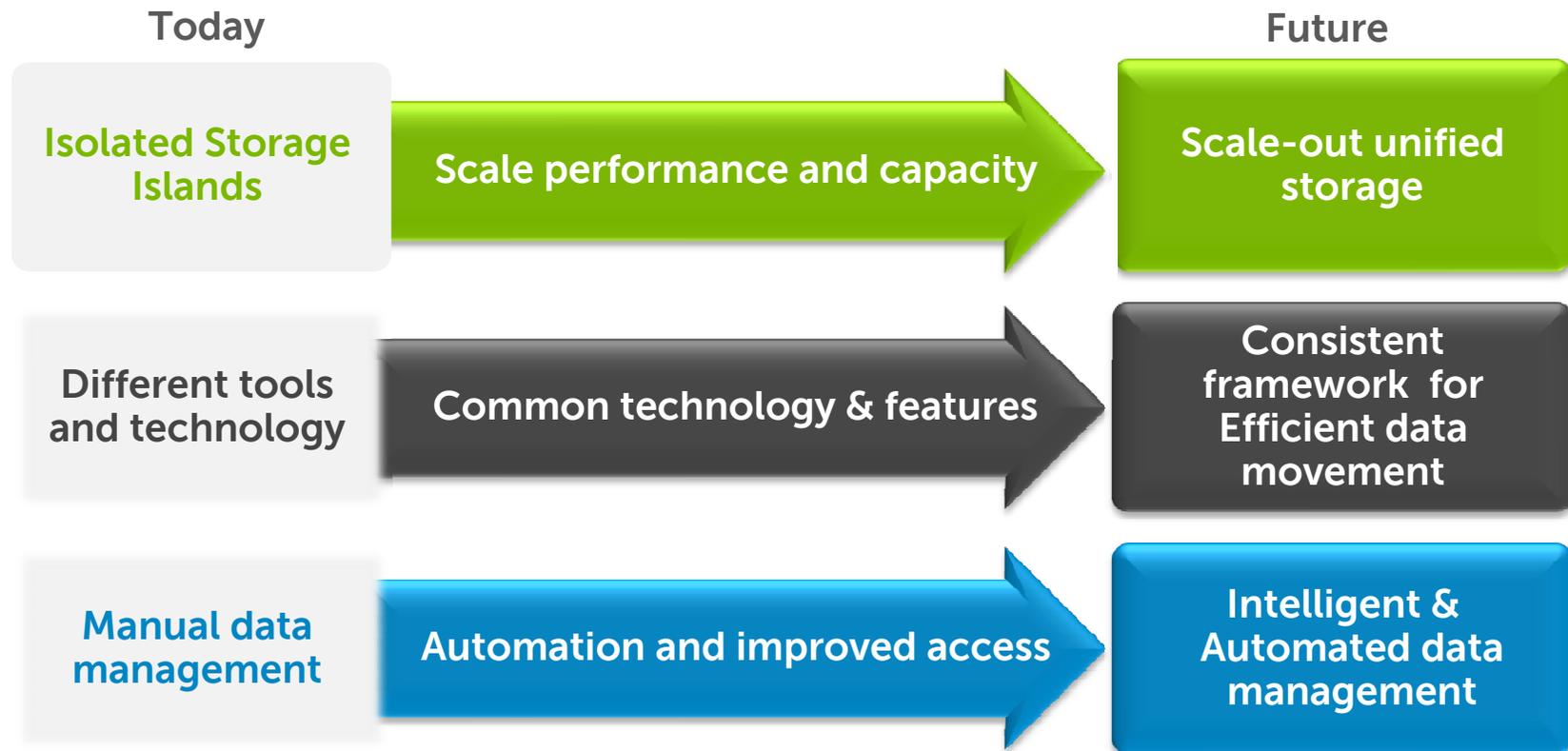
Key building blocks enable transitions to efficiency



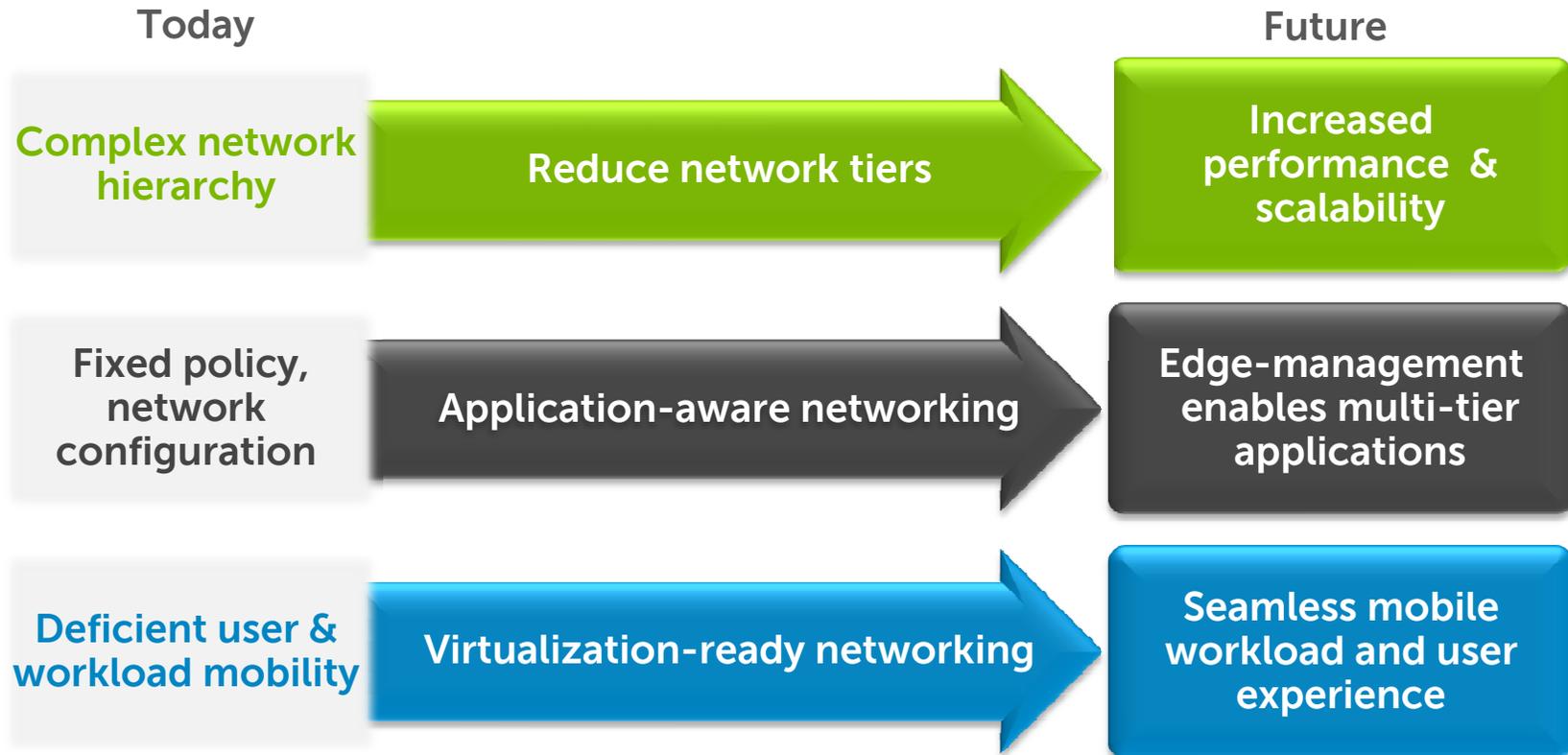
Compute = **intelligent** server infrastructure



Storage = **unified** information fabric

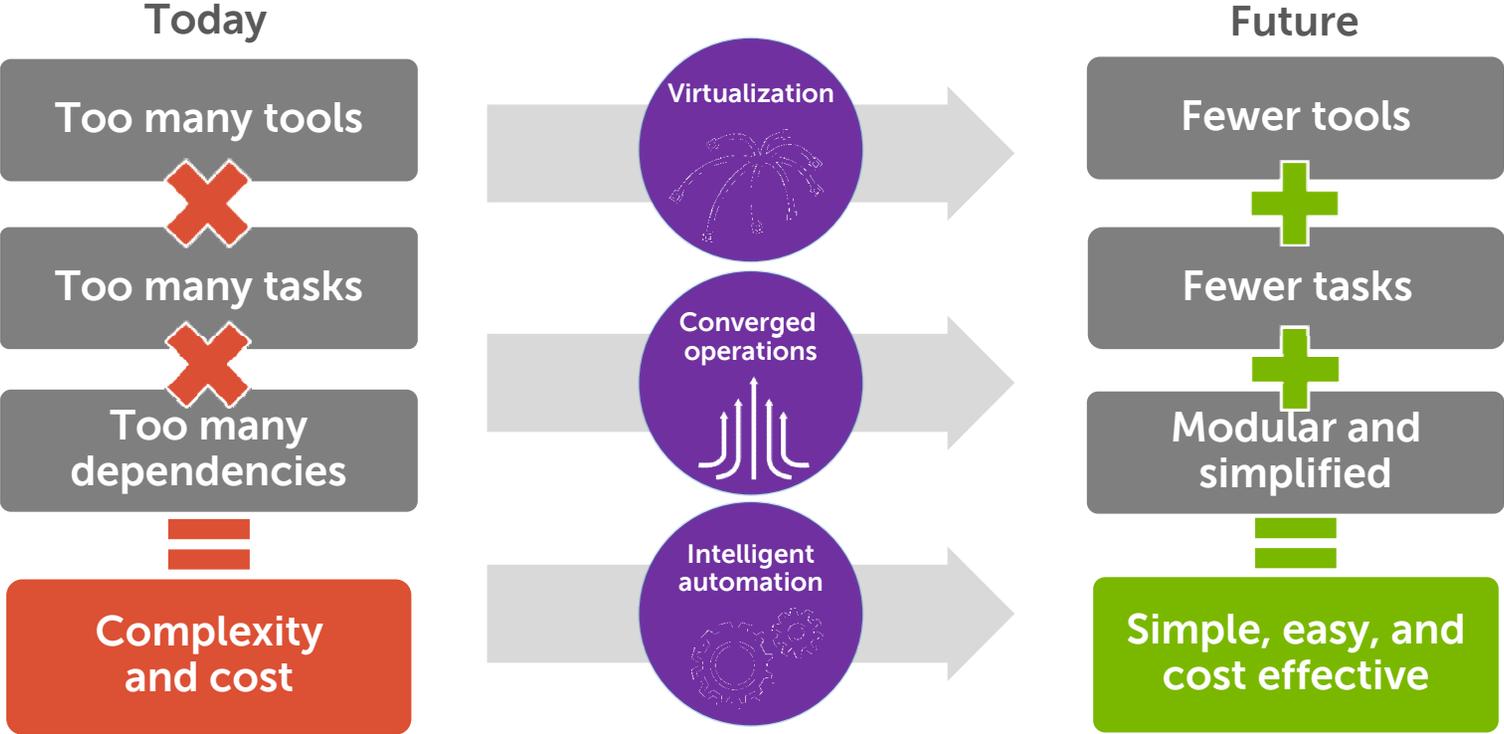


Networking = **flat** for agile application delivery



Simplified system management = **easy** and automated

Leverage key technology innovations to simplify systems management



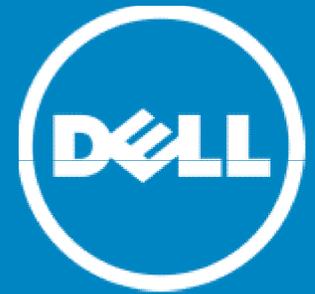
Final Thoughts

Virtual era	Flexibility drives fundamental business shifts
Data center transformation	Efficient Datacenters require solutions for People, Processes, Technology
Value of Flexibility	Open, flexible solutions meet your business needs and provides investment protection



Dell Advanced Infrastructure Manager

A unified resource management platform



Dell Advanced Infrastructure Manager (AIM)

A single management point for **physical and virtual resources** that accelerates provisioning of **heterogeneous hardware** while providing a highly **dynamic and flexibility** environment.

Dynamic and Rapid Server Deployment	Deploy servers from pallet to production in minutes
Highly Available	Automatically and intelligently redeploys workloads across the infrastructure
Workload Mobility, P2V and V2P	Move workloads seamlessly between physical servers and virtual machines
Workload Mobility, P2P	Move workloads between various makes/models of servers and Hypervisors
Shared Infrastructure	Dynamically allocate servers, network connectivity and storage access
Multi-vendor Support	Unified control for today's heterogeneous data centers

What's new for Dell Servers



“One size fits all” does not cut it in the Virtual Era



Dell PowerEdge

- Servers built on our **customer's needs**
- High performance, intelligent platforms with **embedded systems management**

Dell PowerEdge C

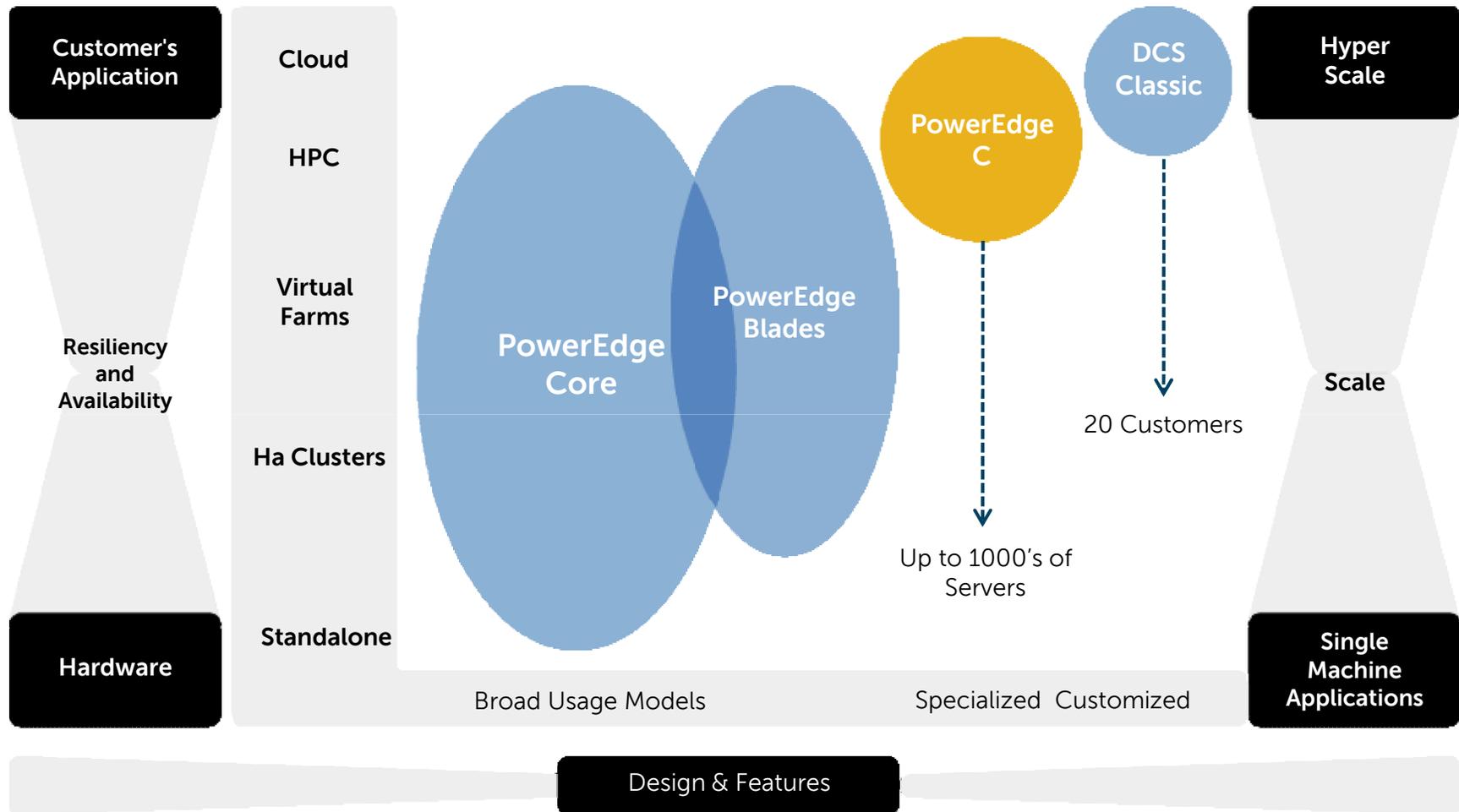
- Meeting needs of **HPC, Web 2.0. SaaS** and **cloud builders**
- Efficiency in **power, density and operating cost**

Dell Data Center Solutions

- Hardware and services designed to meet your **unique needs**
- Run data-intensive applications



Meeting Specific Customer Needs with the Industry's Broadest Server Portfolio



Please note the diagram is conceptual and not to scale



Dell excels in creating top performing servers

Top VMmark Scores: Top 16-core performance with R810 with FlexMemory Bridge

Best Blade Efficiency: Dell M-Series Blades uses **less power** across **all load levels** versus either HP's or IBM's solutions

Best Perf/Watt:

- #1** SPECpower 2-socket for the **R610** and **R710**
- #1** SPECpower 4-socket for the **R815**

Oracle/WebLogic Database Server:

- #1** overall single-node performance with the **R910**
- #1** overall 2-socket single-node with the **R810**



Dell PowerEdge Racks



PowerEdge R910

High Reliability 4-Socket 4U Server for Core Business Critical Applications

Overview

- High performance, high reliability, high I/O capacity 4U server.
- Best for use as a database, virtualization server, or business critical server
- More CPU RAS Features, higher memory capacity, and scalability than previous generation.

Benefits

- Built in RAS Features for high reliability.
- Better TCO and ROI than RISC servers.
- Easy manageability with enterprise class system management tools including Lifecycle Controller via iDRAC Express or Enterprise upgrade



Performance

- Up to Eight-Core Intel Nehalem EX processors
- 64 DDR3 DIMM slots for a total of 1TB of RAM
- PCI-Express I/O Technology

Availability

- Hot-plug SAS or SATA hard drives
- Memory: ECC
- Hot-plug, redundant power and cooling
- Baseboard Management Controller with IPMI 2.0
- Optional remote management (iDRAC6)

Expandability, I/O, Storage

- 10 PCI slots w/riser card PCI-E Gen 2
- Optional PERC7i/SAS7iR
- Configuration options with 16 HDD

Simplified Systems Management

- Baseboard Management Controller with IPMI 2.0
- Advanced management functionality with Lifecycle Controller enabled via optional upgrade to iDRAC Express or Enterprise
- Interactive LCD for easy monitoring and diagnostics



PowerEdge R810

Scalable 2/4-Socket 2U Server for Performance Density

Overview

- High performance, high reliability, flexible 2U server that scales to 4 Sockets.
- Best for use as a email messaging, medium-database, or virtualization server.
- High CPU Core Count and Memory Capacity.

Benefits

- Cost effective scaling and better price per performance than mainstream 2S/4S servers.
- Easy manageability with enterprise class system management tools including Lifecycle Controller via iDRAC Express or Enterprise upgrade
- Maximize datacenter density and performance.



Performance

- Up to Eight-Core Intel Nehalem EX processors
- 32 DDR3 DIMM slots for a total of 512GB of RAM
- PCI-Express I/O Technology

Availability

- Hot-plug SAS or SATA hard drives
- Memory: ECC
- Hot-plug, redundant power and cooling
- Baseboard Management Controller with IPMI 2.0
- Optional remote management (iDRAC6)

Expandability, I/O, Storage

- 6 PCI slots PCI-E Gen 2
- Optional PERC7i/SAS7iR
- Configuration options with 6 HDD

Simplified Systems Management

- Baseboard Management Controller with IPMI 2.0
- Advanced management functionality with Lifecycle Controller enabled via optional upgrade to iDRAC Express or Enterprise
- Interactive LCD for easy monitoring and diagnostics



PowerEdge R900

4-Socket 4U Server for Simplified Solutions

Overview

Architected for virtualization

- 4 Unit, 4 socket, six-core processors
- Embedded hypervisors

RISC Migration

- 24 Cores and 256GB of memory
- "Big Iron" performance at a fraction of the cost
- Simplify IT with a standards-based solution.

Performance

- Up to 6 Core Intel Xeon® 7400 processors
- 32 DIMMs, up to 256GB RAM - 1GB to 8GB DDR2 FBD SDRAM
- PCI-Express I/O Technology

Availability

- Hot-plug SAS hard drives
- Hot-plug, (100-240V) redundant power & cooling
- High and low line redundant power

Expandability, I/O, Storage

- 32 DIMMs
- 7 Available PCI-Express slots
- 4 Embedded Gigabit NICs
- 5 or 8 SAS drives (3.5") or (8 2.5")
- Optional RAID controller PERC 6/i & 6/E

Data-Demanding Applications

- Power, stability & I/O scalability
- Security features for business critical data
- Designed for the most compute intensive apps.



Manageability/Serviceability

- 4U Tool-less chassis
- Active ID & LCD panel
- Baseboard Mgt. Controller w/ IPMI 2.0
- Optional Remote Mgt. Card (DRAC5)

Solution Components

- Dell / Oracle database integration
- Dell / VMware program integration



PowerEdge R815

Specialized High Density 4-Socket 2U Server for Value Performance

Overview

- Specialized high density, value performance 4S in a 2U offering best performance per \$\$, and up to 48 cores
- Best for use as a virtualization server, workload consolidation, email messaging, or larger database, network infrastructure
- Ideal for value-oriented customers looking for higher density, best performance / \$\$ and best in class memory and I/O scalability capacity headroom than traditional 2U



Benefits

- Cost effective scaling and better price per performance than mainstream 2S/4S servers.
- Easy manageability with enterprise class system management tools including Lifecycle Controller via iDRAC Express or Enterprise upgrade
- Maximize datacenter density and performance with higher CPU core count and memory

Performance

- Up to 12-core per socket AMD Magny Cours processors
- 32 DDR3 DIMM slots for a total of 512GB of RAM
- PCI-Express I/O Technology

Availability

- Hot-plug SAS or SATA hard drives
- Memory: ECC
- Hot-plug, redundant power and cooling
- Baseboard Management Controller with IPMI 2.0
- Remote management (iDRAC6)

Expandability, I/O, Storage

- 6 PCI slots PCI-E Gen 2
- Optional PERC7i/SAS7iR
- Configuration options with 6 HDD

Simplified Systems Management

- Baseboard Management Controller with IPMI 2.0
- Advanced management functionality with Lifecycle Controller enabled via optional upgrade to iDRAC Express or Enterprise
- Interactive LCD for easy monitoring and diagnostics



PowerEdge R805

Optimized for Virtualization

Overview

- Designed from the ground up for balanced virtualization performance
- For virtualization & other memory intensive applications
- Ideal for migrating from 4S to 2S servers
- Building block for virtual infrastructure

Benefits

- Faster time-to-productivity
- Cost-effective memory scaling (up to 128GB)
- Low energy footprint (90% Efficient PSU)
- Rack-dense industry standard form factor
- Max VM density in 2U

Performance

- Up to Six-Core AMD Opteron Processors
- Chipset: Nvidia MCP55 + IO-55
- 16 DIMMs, up to 128GB RAM – 1GB to 8GB DDR-2 SDRAM
- PCI-Express I/O Technology

Availability

- Memory: ECC, SDDC
- Hot-plug, redundant power & cooling
- BMC with IPMI 2.0
- Optional remote management (DRAC5)



Expandability, I/O, Storage

- Four PCI-Express slots
- Four embedded Gigabit NICs – TOE enabled
- Two 2.5" SAS or SATA drives
- Optional SAS 6/iR, PERC 6/I, PERC 6/E
- Optional 10GbE and multiple HBA options

Solution Components

- Dell/VMware ESX Program Integration
- Industry Unique Embedded Hypervisor
- iSCSI boot solution
- Dell Virtualization Services
- Dell / Oracle Program Integration



PowerEdge R715

High Density, General Purpose 2-Socket 2u Server

Overview

- Great price/ performance, general purpose, 2U server 16 DIMM slots and up to 24 cores
- Best for use as a virtualization server, workload consolidation, email messaging, or smaller-database, network infrastructure
- High CPU Core Count with AMD Magny-Cours processors

Benefits

- Cost effective scaling and better price per performance than mainstream 2S servers.
- Easy manageability with enterprise class system management tools including Lifecycle Controller via iDRAC Express or Enterprise upgrade
- Maximize datacenter density and performance with higher CPU core count and memory

Performance

- Up to 12-core per socket AMD Magny Cours processors
- 16 DDR3 DIMM slots for a total of 256GB of RAM
- PCI-Express I/O Technology

Availability

- Hot-plug SAS or SATA hard drives
- Memory: ECC
- Hot-plug, redundant power and cooling
- Baseboard Management Controller with IPMI 2.0
- Remote management (iDRAC6)

Expandability, I/O, Storage

- 4 PCI slots PCI-E Gen 2
- Optional PERC7i/SAS7iR
- Configuration options with 6 HDD

Simplified Systems Management

- Baseboard Management Controller with IPMI 2.0
- Advanced management functionality with Lifecycle Controller enabled via optional upgrade to iDRAC Express or Enterprise
- Interactive LCD for easy monitoring and diagnostics



PowerEdge R710

Dell's Cornerstone 2-Socket 2U Server

Overview

- The R710 runs the Intel® Xeon® 5500 and 5600 Series Processors and helps users lower the total cost of ownership with enhanced virtualization capabilities, improved energy efficiency, and innovative system management tools
- The R710 takes advantage of Dell's system commonality. Once an IT manager learns one system, they understand how to manage next-generation Dell servers. Logical component layout and power supply placement also provide a straightforward installation and redeployment experience

Benefits

- Featuring 18 DIMM slots and 4 integrated network connections, the R710 delivers up to 144GB of memory
- Tests by Dell engineers have shown that the processors in the comparable HP DL380 can run 17% hotter than the PowerEdge R710 due to lower airflow, far exceeding Intel design specifications at any room temperature.
- Maximum Internal Storage: Up to 6.0 TB via six 3.5" 1000 GB hot-plug SAS hard drives
- High performance Intel Xeon 5500 series processors, Energy Smart power efficient components increase energy efficiency while delivering the performance businesses require
- New DDR3 memory offers higher bandwidth and lower power consumption than previous FBD or DDR2 RAM technologies

Performance

- Up to two Intel processors
- Buffered DDR-3 SDRAM
- Low Voltage Power Options
- Energy Star certified

Expandability, I/O, Storage

- Up to two x8 and two x4 PCI Express Gen2
- 4 Embedded Gigabit NICs with TOE
- Managed Persistent Storage Options
- Remains a 2U Rack solution

Availability

- Up to eight 2.5" hot-plug hard drives
- Management: iDRAC
- Security: TPM 1.2

Replacement for PowerEdge 2950 & 2950 ES



PowerEdge R610

Intel Based 2-Socket 2U Server Ideal for Corporate Data Centers

Overview

- The Dell PowerEdge R610 is a general purpose Intel®-based 2-socket 1U server is ideal for corporate data centers and remote sites that require a dense, highly available single- or dual-processor server at an excellent value
- Designed for versatility and high performance, it provides many of the virtualization, system management, and energy-efficiency features users need now and the scalability necessary as businesses grow
- Choice of hypervisor from VMware, Citrix or Microsoft for fast, easy virtualization via a SD card or internal USB



Benefits

- Up to 96GB (12 DIMM slots/6 per-processor): 1GB/2GB/4GB/8GB DDR3 800MHz, 1066MHz or 1333MHz
- Dell's newest servers feature Energy Smart technologies designed to reduce power consumption while increasing performance and capacity
- Simplified systems management ranging from basic hardware to assets and security

Performance

- Up to two Dual-Core or Quad-Core Intel® Xeon® 5500 or 5600 Series Processors
- Buffered DDR-3 SDRAM
- Two hot-plug high-efficient 502W Energy Smart PSU or two hot-plug 717W High Output PSUs
- Energy Star certified

Expandability, I/O, Storage

- 2 PCIe x8, G2
- 4 Embedded Gigabit NICs with TOE
- Managed Persistent Storage Options
- Remains a 1U Rack solution

Availability

- Six 2.5" hot-plug hard drives
- Management: iDRAC
- TPM 1.2

Replacement for PowerEdge 1950



PowerEdge 2970

Full Feature 2-Socket 2U Server for Flexibility

Overview

- Rack dense, high performance, high availability, flexible 2U server for mainstream applications
- The first server on the market to support AMD Dual Dynamic Power Management for improved performance and energy optimization
- Superior floating point calculation makes it ideal for customers running engineering, scientific, or industrial applications

Benefits

- Run applications faster with Six-Core AMD Opteron processors
- Optimize operations by choosing between 3.5" or 2.5" drives
- Perform virtualization better when using software that supports Nested Page Tables



Performance

- Up to Six-Core AMD Opteron Processors
- 8 Fully-Buffered DIMM slots for a total of 2GB/32GB of RAM
- PCI-Express I/O Technology

Availability

- Hot plug SAS or SATA hard drives
- Memory: ECC, SDDC, Spare Bank
- Hot-plug, redundant power (optional) and cooling (standard)
- Optional RAID (slot-less)
- Baseboard Management Controller with IPMI 2.0
- Optional remote management (DRAC5)

Expandability, I/O, Storage

- 3 PCI-Express slots
- Two embedded Gigabit NICs – TOE enabled
- Eight 2.5" SAS drives (now) or Six 3.5" SAS or SATA (Q3CY07)
- Optional add-in RAID controller PERC 5/i and PERC 5/E
- Optional PCI-express based Fibre Channel HBA
- First PowerEdge server with an internal USB port

Solution Components

- Dell/VMware ESX Program Integration
- Dell/Oracle Database Program Integration



PowerEdge R515

Storage Density, Power, Efficiency, Flexibility in one Value Packed Server

Overview

- The Dell PowerEdge R515 is a high-performance, flexible 2-socket 2U rack server that delivers an excellent balance of internal storage, redundancy, advanced management, cost-effective RAID options and value in a compact chassis. The R515 is ideal for network infrastructure, database, mail server, SMB Web server and other usages requiring storage density in the box.
- Highly configurable with enterprise-class features such as embedded systems management with Lifecycle Controller, storage expandability, industry leading serviceability including option interactive LCD for diagnostics and security features such as TPM, internal USB and IPv6.
- Compact 24" or 26" chassis accommodates flexible deployment in shallow racks, A/V, and legacy server racks.

Benefits

- New high-performance AMD processors for more advanced processing performance, memory and storage.
- Simplified manageability with embedded systems management and tools.
- Save energy and increase density with efficient power supplies and more drives per chassis.

Performance

- Two socket, AMD Opteron 4100 series processors, 4 & 6 Core
- PCI-Express I/O technology
- 8 R-DIMM 64GB DDR3 ECC or 8 U-DIMM 32GB DDR3 ECC

Simplified Systems Management

- Baseboard Management Controller with IPMI 2.
- Full enterprise class manageability of Lifecycle Controller w/ remote management (iDRAC)
- Interactive LCD with hot plug chassis for improved monitoring and diagnostics

Expandability, I/O, Storage

- Dual-port embedded Gigabit NIC
- PCIe G2 slots – Riser 1: 3 x PCIe + 1 storage, Riser 2: 1 x PCIe + 1 storage
- Configuration options with 8 or 12 SAS, SATA, or SSD
- Optional S/W RAID S300, PERC H200, H700 and H800

Availability

- ECC Memory
- Hot-plug drives standard (choice of SAS, SATA, or SSD)
- Hot-plug redundant power supplies and cooling standard



PowerEdge R510

Value 2-Socket 2U Server for Flexibility and Density

Overview

- High performance, high availability, flexible 2U server that balances expandability and density.
- Best for use as a network infrastructure, database, or messaging & collaboration server.
- Improved flexibility, security, and performance over previous generations.



Benefits

- Decrease power consumption through improved power supply units and monitoring.
- Maximum density with more drives per chassis
- Easy manageability with enterprise class system management tools including optional upgrade to Lifecycle Controller via iDRAC Express or Enterprise upgrade

Performance

- Quad-Core Intel 5500 or 5600 Xeon processors
- 8 DDR3 DIMM slots for a total of 64 GB of RAM
- PCI-Express I/O Technology

Availability

- Hot-plug SAS or SATA hard drives
- Memory: ECC
- Hot-plug, redundant power (optional) and cooling (standard with 12 HDD version)
- Baseboard Management Controller with IPMI 2.0
- Optional remote management (iDRAC6)

Expandability, I/O, Storage

- 3 PCI slots (3 PCIe+ 1 storage)
- Optional SAS 6i/R, SAS 5/E, PERC 6/E, PERC 6/I and cost effective RAID options with PERC S100, PERC S300
- Configuration options with 4 , 8 or 12 HDD versions (12 HDD- January 2010)

Simplified Systems Management

- Baseboard Management Controller with IPMI 2.0
- Advanced management functionality with Lifecycle Controller enabled via optional upgrade to iDRAC Express or Enterprise
- Interactive LCD for easy monitoring and diagnostics (only on 8HDD model)



PowerEdge R415

High Performance, Tremendous Value in a Compact Design

Overview

- The Dell PowerEdge R415 is a high-performance, 2-socket 1U rack product that delivers the right combination of computing power and redundancy in an ultra-dense chassis - ideal for small and medium businesses, remote offices and enterprises supporting data access workloads including departmental Web servers, mail server for up to 25 users, appliance server, file server, HPCC, video streaming, etc.
- Highly configurable with enterprise-class features such as embedded systems management with Lifecycle Controller, storage expandability, industry leading serviceability including option interactive LCD for diagnostics and security features such as TPM, internal USB and IPv6.
- Compact 24" chassis is industry leading and accommodates flexible deployment in shallow racks, mobile server enclosures, wall server enclosures, A/V racks and legacy server racks

Benefits

- New high-performance AMD processors for more advanced processing performance, memory and storage
- Simplified embedded systems management
- Save energy and increase density with smaller rack footprint and highly efficient power supplies

Performance

- Two socket, AMD Opteron 4100 series processors, 4 & 6 Core
- PCI-Express I/O technology
- 8 R-DIMM 64GB DDR3 ECC or 8 U-DIMM 32GB DDR3 ECC

Simplified Systems Management

- Baseboard Management Controller with IPMI 2.
- Full enterprise class manageability of Lifecycle Controller w/ remote management (iDRAC)
- Interactive LCD with hot plug chassis for improved monitoring and diagnostics

Expandability, I/O, Storage

- Dual-port embedded Gigabit NIC
- One expansion slot: PCIe x16 (True x16)
- Up to four 3.5" SATA, NL SAS, SAS or 2.5" SAS, SSD drives
- Optional SAS 6/iR (UI)*, S/W RAID S100 (UI)*, S300, PERC H200, H700 and H800

Availability

- ECC Memory
- Hot-plug SAS, SSD or SATA hard drives (optional)
- Redundant power supplies (optional)

* Indicates Features Under Investigation and subject change



PowerEdge R410

High Performance/Availability Rack Dense Server

Overview

- The Dell PowerEdge R410 is a powerful 2-socket 1U server that is ideal for small and medium businesses or larger enterprise- ideal for compute intense applications in space constrained IT environment or HPCC environments.
- Features compact chassis for flexible deployment options along with the ability to upgrade to enterprise class manageability with Lifecycle Controller via iDRAC Express or Enterprise upgrade.



Benefits

- Maximizing data center density and performance from an entry-level optimized server delivering real value
- Simplified systems management options available from basic to enterprise class based on environment
- Save energy and increase capacity with a smaller rack footprint and highly efficient power supplies

Performance

- 2-socket, Latest Dual or Quad-Core Intel Xeon 5500 or 5600 series processors
- 8 DIMM -1GB/64GB; Unbuffered/Registered DDR3
- PCI-Express I/O Technology

Availability

- Memory: ECC
- Hot-plug SAS, SSD or SATA hard drives (optional)
- Redundant power supplies(optional)
- Baseboard Management Controller with IPMI 2.0
- Optional remote management (iDRAC6)

Expandability, I/O, Storage

- 1 PCIe slots (x16)
- Dual port embedded Gigabit NIC
- Four 3.5" SATA/SAS/ SSD hard drives
- Optional SAS 6i/R, SAS 5/E, PERC 6/E, PERC 6/i

Simplified Systems Management

- Baseboard Management Controller with IPMI 2.0
- Advanced management functionality with Lifecycle Controller enabled via optional upgrade to iDRAC Express or Enterprise
- Interactive LCD with hot plug chassis for easy monitoring and diagnostics



PowerEdge R310

Ultimate Performance Single-Socket Rack

Overview

- The Dell PowerEdge R310 is a high –performance, ultra-dense 1-socket 1U with the right combination of computing power and redundancy that is ideal for small and medium businesses, remote offices or larger enterprise with a space constrained IT environment.
- Highly configurable with enterprise-class features such as embedded systems management with Lifecycle Controller, redundant power supplies, hot-plug HDDs, industry leading security features with TPM, internal USB and IPv6, and expandable internal storage with up to four 3.5" hard drives
- The compact chassis allows for flexible deployment with Industry leading chassis depth of only 24" in its class suitable for shallow racks, mobile server enclosures, wall server enclosures, A/V racks and legacy server racks

Benefits

- Maximizing data center density and performance from an entry-level optimized server delivering real value
- Simplified embedded systems management
- Save energy and increase capacity with a smaller rack footprint and highly efficient power supplies

Performance

Single socket, Intel Xeon 3400 series processor, Quad-Core

- 6 R-DIMM 32GB DDR3 ECC or 4 U-DIMM16GB DDR3 ECC
- PCI-Express I/O Technology

Management

- Baseboard Management Controller with IPMI 2.0
- Full enterprise class manageability of Lifecycle Controller with remote management (iDRAC6)
- Optional interactive Diagnostic LCD

Expandability, I/O, Storage

- Dual-port embedded Gigabit NIC
- Two expansion slots (one PCIe x16 G2, and 1 PCIe x8)
- Up to four 3.5" SATA, NL SAS, SAS or 2.5" SAS, SSD drives
- FC HBAs for external storage connectivity options
- Cost effective RAID options including PERC S100, PERCS300. As well as optional SAS 6i/R, PERC H200, PERC H700



PowerEdge R300

High Performance/Availability Rack Dense Server

Overview

- 1U, 1-socket rack dense application server with high memory capacity for network, infrastructure, and web applications
- Low cost, high feature value server for any sized organization
- Lower power footprint equals greater efficiency, designed with an efficient power supply consuming less power at 100% load



Benefits

- Maximizing datacenter density and performance from an entry-level optimized server delivering real value
- Simplified operations through Active ID and programmable LCD Panel, a 1st for a 1U, 1-socket server
- Save energy and increase capacity with a smaller rack footprint and highly efficient power supplies

Performance

- Single socket, Intel
- Support for quad-core and dual-core processors
- 6 DIMM -512MB/24GB; Registered DDR-2 ECC SDRAM
- PCI-Express I/O Technology

Expandability, I/O, Storage

- 2 PCIe slots (x8)
- Dual embedded Gigabit NICs
- Two 3.5" SATA or SAS drives
- Optional SAS 6i/R, SAS 5/E, PERC 6/E

Availability

- Memory: ECC
- Dual embedded Gigabit NICs
- PCI Express based RAID
- Baseboard Management Controller with IPMI 2.0
- Optional remote management (DRAC5)
- Optional Hot-plug HDD and Redundant PSU



PowerEdge R210 II

Entry-Level Rack Dense Server



Overview

- The PowerEdge R210 II is an entry-level, yet enterprise ready, ultra-dense 1-socket 1U rack server that is well suited for single-tier architectures, workloads and SMB applications.
- It is also an ideal server for departmental, remote branch, and for edge of network deployments.
- The PowerEdge R210 II offers value in a compact size for deployment in almost any environment.
- It has the performance and features to run business applications that facilitate data coordination and sharing, data protection, management and scalability to support business growth.

Benefits

- Significant improvement over previous generation to operate mainstream business applications with improved acoustical performance
- Redundant Array of Independent Disks (RAID) to make copies of data automatically to prevent downtime in the event of a hard drive failure
- Easier to manage with Dell Lifecycle Controller and full OpenManage suite for simplified remote management.

Performance

- Intel® Xeon® processor E3-1200 series, Intel® Core™ i3-2100 series, and Intel® Pentium® Processors
- 4 DIMM- 16GB DDR3 ECC (Unbuffered)
- PCI-Express I/O Technology

Management

- Baseboard Management Controller with IPMI 2.0
- Full enterprise class manageability of Lifecycle Controller with optional remote management (iDRAC6) upgrade
- Quad-pack Diagnostic LED

Expandability, I/O, Storage

- Dual-port embedded Gigabit NIC
- 1 Expansion slots (one PCIe x16 G2)
- Either 2 x 3.5" or 4 x 2.5"(Post RTS) cabled hard drives
- eSATA port added for external storage connectivity options
- Cost effective RAID options including PERC S100, PERCS300. or optional HW RAID: PERC H200, PERC H800



PowerEdge R200

Entry-Level Rack Dense Server

Overview

- 1U, 1-socket rack dense application server for network, infrastructure, and web applications
- Lead cost-performance value server for small-medium organization
- Provide flexibility and expandability to customer application needs and future technology evolves



Benefits

- Maximizing datacenter density and performance from an entry-level optimized server delivering real value
- Integrate with latest technology and offer high performance processing power
- Easy manageability on an enterprise class system management tool

Performance

Single socket, Intel

- Quad-core and dual-core processors
- Max 1333MHz FSB
- 4 DIMM -512MB/8GB DDR-2 ECC SDRAM

I/O, Expandability, Storage

- Dual embedded Gigabit NICs
- 2 Expansion slots (two PCIe x8 or one PCIe x8 and one PCI-X)
- Two 3.5" SATA or SAS drives
- Optional SAS 5i/R, SAS 5/E, PCIe RAID PERC 6/E

Management

- Baseboard Management Controller with IPMI 1.5
- Optional remote management (DRAC4)
- Quad pack Diagnostic LED



PowerEdge R910

		Previous	Latest
		PowerEdge R900	PowerEdge R910
Performance	Form Factor	4U	4U
	Chipset	Clarksboro	Boxboro EX
	Processor	Dunnington	Nehalem EX, Westmere-EP
	Socket	4S	4S
	Memory Slots	32 x FBD	64 x DDR3
	DIMM Sizes	512 MB, 1, 2, 4, 8 GB	1, 2, 4, 8, 16 GB
Availability	Expansion Slots	7	10
	Integrated NICs	4 x TOE	4 x TOE
	HDD	8x 2.5" or 5x 3.5" SAS 3Gb	4x 2.5" or 16x 2.5" SAS 6Gb
Expandability	HDD	Hot Plug	Hot Plug
	HDD	SAS, SSD	SAS, SSD
	Integrated Mgmt	BMC+DRAC 5	Advanced Manageability
Management	Persistent Storage	NO	Yes, Managed
	Security	TPM 1.2	TPM 1.2



PowerEdge R815

		Previous	Latest
Performance		PowerEdge R805	PowerEdge R815
	Form Factor	2U Rack	2U Rack
	Chipset	NVIDIA MCP55Pro + IO-55	AMD SR5690 and SP5100
	Processor	AMD Barcelona/ Santa Rosa	AMD Magny Cours
	Socket	2S	4S
	Memory Slots	16 x DDR2	32 x DDR3
Availability	DIMM Sizes	512MB, 1, 2, 4, 8 GB	1, 2, 4, 8, 16 GB
	Expansion Slots	4 PCIe slots	6 PCIe slots
	Integrated NICs	2 x TOE	4 x TOE
Expandability	HDD	2x 2.5"	6 x 2.5"
	HDD	Hot Plug	Hot Plug
		SAS, SATA, SSD	SAS, SATA, SSD
Management	Integrated Mgmt	BMC+DRAC 5	Advanced Manageability
	Persistent Storage	Yes, Unmanaged	Yes, Managed
	Security	TPM 1.2	TPM 1.2



PowerEdge R810

		Previous	Latest	Latest
Performance		PowerEdge R900	PowerEdge R710	PowerEdge R810
	Form Factor	Clarksboro	Tylersburg 36	Boxboro EX
	Chipset	Dunnington	Nehalem, Westmere-EP	Nehalem EX
	Processor	4S	2S	4S
	Socket	Up to 32 x FBD	Up to 18 x DDR3	Up to 32 x DDR3
	Memory Slots	512 MB, 1, 2, 4, 8 GB	1, 2, 4, 8 GB	1, 2, 4, 8, 16 GB
Availability	DIMM Sizes	7 (4 x8 + 3 x4) All Gen 1 4 Full Length slots	2 PCIe x8 + 2 PCIe x4 G2 Or 1 x16 + 2 x4 G2	5 PCIe x8 + 1 PCIe x4 G2
	Expansion Slots	8x 2.5" or 5x 3.5"	6 x 3.5" or 8 x 2.5"	6 x 2.5"
	Integrated NICs	Hot-swap	Hot-swap	Hot Swap
Expandability	HDD	Hot-swap, RDNT	Hot-swap, RDNT	Hot-swap, RDNT
	HDD	4 X TOE	4 x TOE	4 x TOE
	LCD	LCD	LCD	LCD
Management	Integrated Mgmt	BMC+DRAC 5	Advanced Manageability	Advanced Manageability
	Persistent Storage	NO	Yes, Managed	Yes, Managed
	Security	TPM	TPM 1.2	TPM 1.2



PowerEdge R715

		Previous	Latest
Performance		PowerEdge 2970	PowerEdge R715
	Form Factor	2U Rack	2U Rack
	Chipset	Broadcom HT-2100 and HT-1000 Server I/O Controllers	AMD SR5690 and SP5100
	Processor	AMD Barcelona/ Santa Rosa	AMD Magny Cours
	Socket	2S	2S
	Memory Slots	8 x DDR2	16 x DDR3
Availability	DIMM Sizes	512 MB, 1, 2, 4, 8 GB	1, 2, 4, 8, 16 GB
	Expansion Slots	3 PCIe slots	6 PCIe slots
	Integrated NICs	2 x TOE	4 x TOE
Expandability	HDD	6x 3.5" or 8x 2.5"	6 x 2.5"
	HDD	Hot Plug	Hot Plug
		SAS, SATA, SSD	SAS, SATA, SSD
Management	Integrated Mgmt	BMC+DRAC 5	Advanced Manageability
	Persistent Storage	Yes, Unmanaged	Yes, Managed
	Security	TPM 1.2	TPM 1.2



PowerEdge R710

		Previous	Latest
Performance		PowerEdge 2950 III	PowerEdge R710
	Form Factor	2U Rack	2U Rack
	Chipset	Greencreek	Tylersburg
	Processor	Harpertown, Wolfdale	Nehalem, Westmere-EP
	Socket	2S	2S
	Memory Slots	8 x FBD	Up to 18 x DDR3
Availability	DIMM Sizes	512 MB, 1, 2, 4 GB	1, 2, 4, 8 GB
	Expansion Slots	3 PCIe or 2 PCI-x + 1PCIe	2 PCIe x8 + 2 PCIe x4 G2 Or 1 x16 + 2 x4 G2
	Integrated NICs	2 x TOE	4 x TOE
Expandability	HDD	6 x 3.5" or 8 x 2.5"	6 x 3.5" or 8 x 2.5"
	HDD	Hot Plug, Redundant	Hot Plug, Redundant
	HDD	Hot Plug, Redundant	Hot Plug, Redundant
Management	Integrated Mgmt	LCD	LCD
	Persistent Storage	BMC+DRAC 5	Advanced Manageability
	Security	Yes, Unmanaged	Yes, Managed



PowerEdge R610

		Previous	Latest
Performance		PowerEdge 1950 III	PowerEdge R610
	Form Factor	1U Rac	
	Chipset	Greencreek	Tylersburg
	Processor	Harpertown, Wolfdale	Nehalem, Westmere-EP
	Socket	2S	2S
	Memory Slots	8 x FBD	12 x DDR3
Availability	DIMM Sizes	512 MB, 1, 2, 4, 8 GB	1, 2, 4, 8 GB
	Expansion Slots	2 PCIe x 8 or PCI-x	2 PCIe Gen 2
	Integrated NICs	2 x TOE	4 x TOE
Expandability	HDD	2 x 3.5" or 4 x 2.5"	6 x 2.5"
	HDD	Hot Plug, Redundant	Hot Plug, Redundant
		Redundant	Redundant
Management	Integrated Mgmt	LCD	LCD
	Persistent Storage	BMC+DRAC 5	Advanced Manageability
	Security	Yes, Unmanaged	Yes, Managed



PowerEdge R510

		Previous	Latest	Latest
		PowerEdge 2950 III	PowerEdge R710	PowerEdge R510
Performance	Form Factor	1U Rack	2U Rack	1U Rack
	Chipset	Greencreek	Tylersburg 36	Tylersburg 24
	Processor	Harpertown/ Wolfdale	Nehalem	Nehalem, Westmere-EP
	Socket	2S	2S	2S
	Memory Slots	8 x FBD	Up to 18 x DDR3	Up to 8 x DDR3
	Availability	DIMM Sizes	512 MB, 1, 2, 4 GB	1, 2, 4, 8 GB
Expansion Slots		3 PCIe or 2 PCI-x + 1PCIe	2 PCIe x8 + 2 PCIe x4 G2 Or 1 x16 + 2 x4 G2	3 PCIe x8 + 1 Internal Storage Slot Or 1 x16 + 1 Internal Storage Slot
Integrated NICs		2 x TOE	4 x TOE	2 GbE
Expandability	HDD	6 x 3.5" or 8 x 2.5"	6 x 3.5" or 8 x 2.5"	4 or 8 or 12+2 3.5" or 2.5"
	HDD	Hot-swap	Hot-swap, RDNT	Cabled or Hot-swap
	Integrated Mgmt	LCD	LCD	LED/LCD
Management	Integrated Mgmt	BMC+DRAC 5	Advanced Manageability	BMC+ Opt. iDRAC6 Express/ Enterprise
	Persistent Storage	2x Internal USB	Yes, Managed	2 x Internal USB
	Security	TPM	TPM	TPM



PowerEdge R410

		Previous	Latest
Performance		PE 1950 III	PE SC1435
	Form Factor	1U Rack	1U Rack
	Chipset	GreenCreek	Broadcom
	Processor	Harpertown, Wolfdale	AMD
	Socket	2S	2S
	Memory Slots	8 x FBD	8 X DDR2
Availability	DIMM Sizes	512MB, 1, 2, 4, 8 GB	512MB, 1, 2, 4 GB
	Expansion Slots	2 PCIe x 8 or PCI-x	1x PCIe x8 and 1x PCI-X
	Integrated NICs	2 x TOE	2 GbE
Expandability	HDD	2 x 3.5" or 4 x 2.5"	4x 3.5" (optional 2.5")
	HDD	HotPlug	Cabled
Management		LCD	Quadpack LED, optional LCD
	Integrated Mgmt	BMC+DRAC 5	BMC
	Persistent Storage	Yes, Unmanaged	NO
	Security	TPM 1.2	NO
			BMC , IPMI 2.0 Compliant Optional iDRAC6-Express and iDRAC6-Enterprise
			2 x Internal USB



PowerEdge R310

	Previous	Latest
Performance	PE R300	PE R310
Form Factor	1U Rack	1U Rack
Chipset	San Clemente + ICH9R	Intel 3420 chipset
Processor	Yorkfield, Wolfdale, Conroe	Lynnfield, Clarkdale
Socket	1S	1S
Memory Slots	6 x DDR2 R-DIMM 667	4 x DDR3 U-DIMM or 6 x DDR3 R-DIMM
DIMM Sizes	512MB, 1GB, 2GB, 4GB	1, 2, 4, 8*GB (8G DIMM is R-DIMM only)
Expansion Slots	2 PCIe x8 (x8 line) or 1 PCIe x8 + 1 PCI-X	1 PCIe x16 gen 2 slot (x8 line) 1 PCIe x8 gen 2 slot (x 8 line)
Integrated NICs	2	2
Expandability		
HDD	2x 3.5"	4x 3.5" (optional 2.5")
HDD	Non-RDNT or RDNT (optional)	Non-RDNT or RDNT (optional)
Integrated Mgmt	Quad pack LED or Diagnostic LCD	Quad pack LED or Diagnostic LCD
Management	BMC, Optional iDRAC5	BMC , IPMI 2.0 Compliant Optional iDRAC6-Express and iDRAC6-Enterprise
Persistent Storage	2 x Internal USB	2 x Internal USB
Security	TPM	TPM



PowerEdge R210 II

	Previous	Latest
Performance	PE R210	PE R210 II
Form Factor	1U Rack	1U Rack
Chipset	Bigby-V	Cougar Point
Processor	Conroe, Wolfdale, Kentsfield, Yorkfield	Sandy Bridge, Bromolow
Socket	1S	1S
Memory Slots	4x DDR2, 1066/1333 Mhz	4 X DDR3 1333 Mhz, U-DIMM only
Availability		
DIMM Sizes	1, 2, 4, 8 GB	1, 2, 4, 8 GB
Expansion Slots	1x PCIe x8 and 1x PCI-X; or 1x PCIe x8 and 1x PCIe x8 (with x 4 bandwidth)	1 true PCIe x16 gen 2 slot
Integrated NICs	2	1 x GbE (Dual Port)
Expandability		
HDD	2 x 3.5"	2 x 3.5" or 4 x 2.5"(Post RTS)
HDD	Cabled, Non-RDNT	Cabled, Redundant
Integrated Mgmt	Quad pack LED BMC Optional DRAC4	Quad pack LED OpenManage with Lifecycle Controller, iDRAC6 Express, iDRAC6 Enterprise, Vflash
Management		
Persistent Storage	NO	NO
Security	NO	TPM



Dell PowerEdge Blades



PowerEdge M1000e

Ultra Rack Dense High Performance Blade Server

Overview

- Furthering Dell's commitment to Blade servers; chassis houses 2-socket blade servers for mission-critical applications in environments requiring rack density
- Full enterprise server features and scalability without sacrificing functionality
- Improved centralized management for chassis and blade server status and real-time power monitoring



Benefits

- Increased computing density with more blades per chassis
- Simplifying operations through expanded management features
- Save energy and increase capacity with shared efficient power supplies and dynamic power management

Form Factor

- 10U

Bays

- 16 Server Blade slots accommodating full height (2 slot) and half height (1 slot) blades
- 6 I/O bays
- FC8 switch/Pass-Through, Enet 10/100/1000/10Gb switch/Pass-Through, Infiniband switch
- Up to 6 power supplies (3 + 3)
- 9 hot plug/redundant fan modules
- 1 or 2 Chassis Management Modules (2nd is optional)
- Optional integrated Avocent KVM switch

Midplane Connectivity

- Fabric A- Dual 1Gb LOMs per blade
- Fabric B & C - up to 4 x 10Gb links per blade
- Dedicated Ethernet & Serial Management connections

Manageability

- 1 or optionally 2 Chassis Management Controllers
- Chassis status, power control, and inventory
- Manages permissions and access
- Full AD integration
- iKVM for remote server management
- LCD panel
- Initial chassis/blade configuration
- Error messaging and information



PowerEdge M915

Maximized Core-count, IO, Memory, and Value

Overview

- The PowerEdge M915 is a great platform for mission critical applications in data centers needing maximum I/O scalability and the greatest value in a high performance, reliable, blade server.
- Cost effective, large memory capacity x86 server solution that provides full redundancy with hot swap hard drives, and redundant embedded hypervisors.
- Power efficiency target of best performance/watt benchmark in its class by offering a new follow-on to the benchmark driven M605, M805, and M905 configurations.
- Maximized core-count (up to 64), memory footprint (up to 32 DIMMs), redundancy, and I/O capabilities with Dell's first 4S/2S full height AMD blade server with choice of technology (10GbE, 1GbE, etc. via NDC) AND vendor in all three fabrics.

Benefits

- In addition to the 4 mezzanine card networking options, two additional industry 1st network daughter-cards (NDCs) allow for diverse integrated connectivity and immense through-put (up to 12x10GbE ports), providing flexible options for customers whose networking or bandwidth needs change over time
- 32 DIMM slots with up to 512GB of total RAM, and 4 sockets with up to 64 Cores of processing power, deliver mission critical components for database and virtualization performance.

Performance

- Up to 4x12-Core AMD Opteron Processors (4x16-core w/Interlagos!)
- 32 DIMM slots DDR3 1333 SDRAM; 16GB/512GB RAM total
- Up to 12x10GbE ports of High Throughput connectivity using Gen2 PCI Express I/O Technology.

Availability

- Two 2.5" hot-plug SAS/SSD hard drives w/Integrated RAID
- Memory: ECC, SDDC, Spare Bank
- iDRAC per blade with support for: Virtual Media/Virtual KVM, and Serial over LAN
- Out of Band GUI and CLI
- Redundant Chassis Management Controllers
- Hot-plug, redundant power/cooling (chassis)

Expandability, I/O, Storage

- Modular LOM via 2xNDC (Network Daughter-cards)
- Support for up to Four optional I/O Mezzanine cards: 8Gbs Dual port Fibre Channel, 10GbE/2xGbE/4x1GbE Ethernet, or QDR InfiniBand Mezzanine cards
- Support for x8 PCI Express to each Mezzanine card
- Two 2.5" SAS HDDs w/H700 RAID
- Dual Embedded SD card slot – supports redundant hypervisor
- Up to 8 blade servers in a chassis

Solution Components

- Dell/Oracle & SQL Database Program Integration
- Dell/VMware Program Integration
- Dell/EMC Integration



PowerEdge M910

Full-Height Scalable 2S/4S Intel

Overview

- Built with powerful Intel® Xeon® 7500 series processors and advanced systems management capabilities, the M910 is ideal for the demanding applications at the core of most datacenters
- Dell FlexMem Bridge technology allows the M910 to seamlessly scale from 4GB to 512GB of DDR3 RAM in either two-socket or four-socket configurations
- Scalable – Up to 512GB of DDR3 RAM

Benefits

- Incorporates additional features designed for maximum protection against potential downtime, such as the ability to support three fully redundant fabrics per blade and the inclusion of a dual-media redundant embedded hypervisor.

Performance

- Up to Four 4-,6- or 8-Core Intel Xeon 7500 (2S/4S) or 6500 (2S ONLY) Series Processors
- Full height blade

Availability

- 32 DIMM sockets support up to 512GB of DDR3 RAM (32 x 16GB DIMMs)
- 2 x 2.5" Hot Plug Hard Drives (SAS/SSD)
- H200 RAID 0/1 hardware based
- H700 RAID 0/1 w/ 512MB Battery Backed Cache
- SAS6/iR (Customer Kit Only)
- Two Dual Port Broadcom NetXtreme II Gigabit Ethernet 5709S w/ TOE & iSCSI Offload

Expandability, I/O, Storage

- 4 PCIe Gen2 x8 Mezzanine Card Slots for:
 - Dual & Quad Port 1Gb Ethernet
 - Dual Port 10Gb Ethernet w/ iSCSI Offload
 - Dual Port 10Gb CEE/FCoE CNAs
 - Dual Port QLogic & Emulex 8Gb FibreChannel
 - Dual Port Mellanox QDR InfiniBand

Solution Components

- Dell/Oracle & SQL Database Program Integration
- Dell/VMware Program Integration
- Dell/EMC Integration



PowerEdge M905

High Performance 4-Socket Blade Server

Overview

- High-performance, highly scalable 4-socket blade server targeted at robust virtualization, database, and messaging usage models
- 3x the memory and 2x the I/O connectivity of the height blades
- SD card Persistent Storage for embedded hypervisor
- Three highly available, fully redundant I/O fabrics

Benefits

- 24 DIMMs deliver higher memory capacity & more granularity to provide better performance and lower cost 32/64GB configurations
- 4 embedded Ethernet controllers + 4 I/O mezz card slots deliver more highly available I/O connectivity per blade
- High performance from 4-socket, quad-core processors, power efficient solution for customers that need robust blade for heavy use workloads

Performance

- Up to Six- Core AMD Opteron Processors
- 24 DIMM slots DDR2 667/800 SDRAM; 4GB/192GB RAM total
- PCI Express I/O Technology

Availability

- Two 2.5" hot-plug SAS hard drives
- Memory: ECC, SDDC, Spare Bank
- Integrated RAID
- iDRAC per blade with support for:
 - Virtual Media/Virtual KVM, and Serial over LAN
 - Out of Band GUI and CLI
- Hot-plug, redundant power/cooling (chassis)

Expandability, I/O, Storage

- Four embedded Gigabit1 NIC with TOE/iSCSI offload
- Support for up to Four optional I/O Mezzanine cards
- Dual port Fibre Channel, Ethernet, or InfiniBand Mezzanine cards
- Support for x8 PCI Express to each Mezzanine card
- Two 2.5" SAS HDDs
- SAS6/IR or CERC6 RAID options for local HDDs
- Embedded SD card slot – supports embedded hypervisor
- Up to 8 blade servers in a chassis

Solution Components

- Dell/Oracle & SQL Database Program Integration
- Dell/VMware Program Integration
- Dell/EMC Integration



PowerEdge M710HD

High Density Intel Based 2-Socket Blade Server

Overview

- 2-socket blade server targeted at entry-level virtualization, database, and messaging usage models in an exceptionally dense form factor
- The M710HD allows quick virtualization with software from leading industry vendors using optional Dual Media Redundant SD cards or internal USB for embedded hypervisors
- LOM on Daughter card allows for future integrated connectivity options

Benefits

- Up to 18 DIMM slots delivering up to 192GB of total RAM, a critical component for virtualization and database performance
- DDR3 memory offers higher bandwidth and low power consumption, with new low-voltage DIMM options for even greater power savings
- High performance Intel Xeon 5600 series processors, power efficient solution for customers that need robust blade for heavy use workloads

Performance

- Up to two Intel Quad- or 6-Core Intel 5600 series processors
- PCI Express I/O Technology
- Half Height Blade
- Buffered DDR-3 SDRAM with LVD options

Availability

- Two 2.5" hot-plug hard drives
- Memory: ECC, SDDC, Spare Bank
- Integrated RAID
- Management: iDRAC
- TPM 1.2
- Hot-plug, redundant power/cooling (chassis)



Expandability, I/O, Storage

- 2 Mezzanine Cards
- 4 Gigabit NIC on Daughtercard w/ TOE - future options TBA
- Managed Persistent Storage Options

Solution Components

- Dell/Oracle & SQL Database Program Integration
- Dell/VMware Program Integration
- Dell/EMC Integration



PowerEdge M710

High Performance Intel Based Blade Server

Overview

- High-performance, highly scalable 2-socket blade server targeted at robust virtualization, database, and messaging usage models
- The M710 allows quick virtualization with software from leading industry vendors using an SD card or internal USB for embedded hypervisors
- Full-fabric redundancy (on all three fabrics) for exceptional I/O capacity

Benefits

- Up to 18 DIMM slots delivering up to 144GB of total RAM a critical component to virtualization and database performance
- New DDR3 memory offers higher bandwidth and lower power consumption than previous FBD or DDR2 RAM technologies
- High performance Intel Xeon 5500 series processors, power efficient solution for customers that need robust blade for heavy use workloads

Performance

- **Up to two Intel** Dual-Core or Quad-Core Intel 5500 series processors
- PCI Express I/O Technology
- **Nehalem processors**
- **Full Height Dual Slot Blade**
- **Buffered DDR-3 SDRAM**

Availability

- Four 2.5" hot-plug hard drives
- Memory: ECC, SDDC, Spare Bank
- Integrated RAID
- Management: iDRAC
- TPM 1.2
- Hot-plug, redundant power/cooling (chassis)

Expandability, I/O, Storage

- 4 Mezzanine Cards
- 8 High Speed Ports
- 4 Embedded Gigabit NICs with TOE
- Managed Persistent Storage Options

Solution Components

- Dell/Oracle & SQL Database Program Integration
- Dell/VMware Program Integration
- Dell/EMC Integration



PowerEdge M610x

Intel Based Blade Server with PCIe Expansion

Overview

- 2-socket blade server targeted at high-performance database acceleration, graphics, GPGPU, and other usage models that require PCIe expansion cards to deliver specific capabilities
- The M610x leverages all of the performance and capacities of the M610 half-height blade coupled to a uniquely capable PCIe expansion module in a full-height blade form factor.

Benefits

- Up to 12 DIMM slots delivering up to 192GB of total RAM, a critical component for database performance
- DDR3 memory offers higher bandwidth and low power consumption, with new low-voltage DIMM options for even greater power savings
- High performance Intel Xeon 5600 series processors, power efficient solution for customers that need robust blade for heavy use workloads

Performance

- Up to two Intel Quad- or 6-Core Intel 5600 series processors
- PCI Express I/O Technology
- Full Height Blade
- Buffered DDR-3 SDRAM with LVD options

Availability

- Two 2.5" hot-plug hard drives
- Memory: ECC, SDDC, Spare Bank
- Integrated RAID
- Management: iDRAC
- TPM 1.2
- Hot-plug, redundant power/cooling (chassis)

Expandability, I/O, Storage

- 2 Mezzanine Cards
- 2 x16 PCIe expansion slots
- 2 Gigabit NICs w/ TOE
- Managed Persistent Storage Options

Solution Components

- Dell/Oracle & SQL Database Program Integration
- Dell/VMware Program Integration
- Dell/EMC Integration



PowerEdge M610

Ultra Rack Dense High Performance Blade Server

Overview

- High performance 2-socket blade server for mission-critical applications in environments requiring rack density
- This blade server helps cut operating expenses through energy efficiency, product flexibility, and efficient use of data center space
- PowerEdge M610 allows for quick virtualization deployment with embedded hypervisors from leading industry vendors such as VMware, Citrix and Microsoft via a SD card or internal USB
- Centralized management for blade server deployment, status, and real time power monitoring

Benefits

- High performance Intel® Xeon® 5500 Series Processors, power efficient solution for customers that need robust blade for heavy use workloads
- DDR3 memory offers higher bandwidth and lower power consumption than previous FBD or DDR2 RAM technologies
- The M610 is designed with 50% more memory capacity than the previous generation M600, a critical component to virtualization and database performance
- Simplified operations through expanded management features

Performance

- Up to Two Dual-Core or Quad-Core Intel Xeon Processors
- 12 DIMM slots: 1GB/2GB/4GB/8GB ECC DDR3
- Support up to 96GB using 12 x 8GB DIMMs
- PCI Express I/O Technology

Availability

- Four 2.5" hot-plug hard drives
- Management: iDRAC
- TPM 1.2
- Memory: ECC, SDDC, Spare Bank, Mirroring
- Integrated RAID
- Hot-plug, redundant power/cooling (chassis)

Expandability, I/O, Storage

- 2 Mezzanine Cards
- 4 High Speed Ports
- 2 Embedded Gigabit NICs with TOE
- Managed Persistent Storage Options

Solution Components

- Dell/Oracle & SQL Database Program Integration
- Dell/VMware Program Integration
- Dell/EMC Integration
- High Performance Compute Cluster Program Integration

Replacement for PowerEdge M600



POWEREDGE M805

Scalable 2-Socket Blade Server

Overview

- Highly scalable 2-socket blade server targeted at virtualization, database and messaging usage models
- 2x the memory and I/O connectivity of the ½ height blades
- SD card Persistent Storage for embedded hypervisor
- 3 Highly Available, fully redundant I/O fabrics

Benefits

- 16 DIMMs deliver higher memory capacity & more granularity to provide lower cost 32/64GB configurations
- 4 embedded Ethernet controllers + 4 I/O mezz card slots deliver more highly available I/O connectivity per blade
- High density, highly power efficient solution for customers that need high memory and I/O

Performance

- Up to Six-Core AMD Opteron Processors
- 16 DIMM slots DDR2 667/800 SDRAM; 4GB/128GB RAM total
- PCI Express I/O Technology

Availability

- Two 2.5" hot-plug SAS hard drives
- Memory: ECC, SDDC, Spare Bank
- Integrated RAID
- iDRAC per blade with support for:
 - Virtual Media/Virtual KVM, and Serial over LAN
 - Out of Band GUI and CLI
 - Hot-plug, redundant power/cooling (chassis)

Expandability, I/O, Storage

- Four embedded Gigabit1 NIC with TOE/iSCSI offload
- Support for up to Four optional I/O Mezzanine cards
- Dual port Fibre Channel, Ethernet, or InfiniBand Mezzanine cards
- Support for x8 PCI Express to each Mezzanine card
- Two 2.5" SAS HDDs
- SAS6/IR or CERC6 RAID options for local HDDs
- Embedded SD card slot – supports embedded hypervisor
- Up to 8 blade servers in a chassis

Solution Components

- Dell/Oracle & SQL Database Program Integration
- Dell/VMware Program Integration
- Dell/EMC Integration



PowerEdge M605

Ultra Rack Dense High Performance Blade Server

Overview

- High performance 2-socket blade servers for mission-critical applications in environments requiring rack density
- Full enterprise server features and scalability without sacrificing functionality
- Centralized management for blade server deployment, status, and real time power monitoring

Benefits

- Greater flexibility and interoperability with multiple processor choices
- Simplified operations through expanded management features
- Reduce energy consumption with shared power supplies and dynamic power management



Performance

- Up to Six-Core AMD Opteron Processors
- 8 DIMM slots DDR2 SDRAM; 1GB/64GB RAM total
- PCI Express I/O Technology

Availability

- Two 2.5" hot-plug SAS or SATA hard drives
- Memory: ECC, SDDC, Spare Bank, Mirroring
- Integrated RAID
- iDRAC per blade with support for:
 - Virtual Media/Virtual KVM, and Serial over LAN
 - Out of Band GUI and CLI
 - Hot-plug, redundant power/cooling (chassis)

Expandability, I/O, Storage

- Dual port embedded Gigabit¹ NIC with TOE
- Support for up to two optional I/O Mezzanine cards
- Dual port Fibre Channel, Ethernet, or InfiniBand Mezzanine cards
- Support for x8 PCI Express to each Mezzanine card
- Two 2.5" SAS or SATA HDDs
- SAS6/IR or CERC6 RAID options for local HDDs
- Up to 16 blade servers in a chassis

Solution Component

- Dell/Oracle & SQL Database Program Integration
- Dell/VMware Program Integration
- Dell/EMC Integration
- High Performance Compute Cluster Program Integration



POWEREDGE M600

Ultra Rack Dense High Performance Blade Server

Overview

- High performance 2-socket blade servers for mission-critical applications in environments requiring rack density
- Full enterprise server features and scalability without sacrificing functionality
- Centralized management for blade server deployment, status, and real time power monitoring

Benefits

- Greater flexibility and interoperability with multiple processor choices
- Simplified operations through expanded management features
- Reduce energy consumption with shared efficient power supplies and dynamic power management

Performance

- Up to Two Dual-Core or Quad-Core Intel Xeon Processors
- 8 DIMM slots Fully Buffered DDR-2 SDRAM; 1GB/64GB RAM total
- PCI Express I/O Technology

Availability

- Two 2.5" hot-plug SAS or SATA hard drives
- Memory: ECC, SDDC, Spare Bank, Mirroring
- Integrated RAID
- iDRAC per blade with support for:
 - Virtual Media/Virtual KVM, and Serial over LAN
 - Out of Band GUI and CLI
 - Hot-plug, redundant power/cooling (chassis)

Expandability, I/O, Storage

- Dual port embedded Gigabit NIC with TOE
- Support for up to two optional I/O Mezzanine cards
- Dual port Fibre Channel, Ethernet, or InfiniBand Mezzanine cards
- Support for x8 PCI Express to each Mezzanine card
- Two 2.5" SAS or SATA HDDs
- SAS6/IR or CERC6 RAID options for local HDDs
- Up to 16 blade servers in a chassis

Solution Components

- Dell/Oracle & SQL Database Program Integration
- Dell/VMware Program Integration
- Dell/EMC Integration
- High Performance Compute Cluster Program Integration



Ethernet I/O Modules

Dell PowerConnect

Dell PowerConnect M6220

- **1GbE/10GbE** – Layer 3 Switch
 - 4 1GbE External Ports
- Modular Expansion Ports for:
- Stacking
 - 4 10GbE External Ports
 - Optional "Simple Mode" for integration into any Ethernet Fabric



Dell PowerConnect M8024

- 8x **10GbE** External Ports via 2 expansion bays
- Options for SFP+, CX4, 10GBase-T
- Simple Switch Mode for integration into any Ethernet Fabric
- **Lowest cost 10GbE switch on the market for end to end 10GbE connectivity**



Cisco Ethernet

Cisco Catalyst 3032

- 8 1GbE External Ports

Cisco Catalyst 3130G

- 8 1GbE External Ports
- Stacking Enabled

Cisco Catalyst 3130X

- 4 1GbE External Ports
- 4 optional 1GbE or 10GbE ports
- Stacking Enabled



Ethernet Pass-Through

10/100/1000Mb capable



I/O MODULES

Fibre Channel

Brocade M5424 Switch

- 8Gb Fibre Channel
- The industry's FIRST end-to-end FC8 blade-integrated solution
- Up to 8 External Ports
- Choice of Full Switch Mode or NPIV / Access Gateway Mode – for integration into any FC Fabric



Brocade M4424 Switch

- 4Gb Fibre Channel
- 8 External Ports
- Choice of Full Switch Mode or NPIV / Access Gateway Mode – for integration into any FC Fabric

Emulex FC4 Pass-Through

- 16 External Ports



InfiniBand

Cisco SFS M7000E or Mellanox M2401G

- DDR InfiniBand (Double Data Rate / 20Gbps)
- 8 External Ports



NEW! Mellanox M3601Q

- QDR InfiniBand (Quad Data Rate / 40Gbps)
- The industry's FIRST QDR blade switch
- 16 External Ports
- Double Wide using two switch slots



PowerEdge M905, M915, M910

		M905	M915	M910
Performance	Form Factor	Full Height Blade, Dual Slot	Full Height Blade, Dual Slot	Full Height Blade, Dual Slot
	Chipset	AMD Opteron HT1100 8000 Series	AMD Opteron G34 6000 Series	Intel Boxboro EX
	Processor	Shanghai & Maranello	MagnyCours & Interllagos	Nehalem EX (Beckton)
	Socket	4S	2S / 4S	2S / 4S
	Memory Slots	24 x DDR2	32 x DDR3	32 x DDR3
	DIMM Sizes	1, 2, 4, 8 GB	1, 2, 4, 8, 16 GB	1, 2, 4, 8, 16 GB
Availability	Expansion Slots	4 x8 PCIe Mezzanine Cards	4 x8 PCIe Mezzanine Cards	4 x8 PCIe Mezzanine Cards
	Integrated NICs	4 x TOE with optional iSCSI offload	(2)Modular LOM via Network Daughter-card (NDC)	4 x TOE – iSCSI offload optional
Expandability	HDD	2 x 2.5"	2 x 2.5"	2 x 2.5"
	HDD	Hot Plug	Hot Plug	Hot Plug
		SAS, SATA, SSD	SAS, SSD	SAS, SSD
Management	Integrated Mgmt	iDRAC5 Enterprise	iDRAC6 Enterprise	iDRAC6 Enterprise
	Persistent Storage	Yes, Managed	Yes, Managed, Redundant	Yes, Managed



PowerEdge M710, R810, M910

		M710	R810	M910
Performance	Form Factor	Full Height Blade, Dual Slot	2U chassis	Full Height Blade, Dual Slot
	Chipset	Tylersburg	Boxboro EX	Boxboro EX
	Processor	Nehalem EP, Westmere-EP	Nehalem EX	Nehalem EX (Beckton)
	Socket	2S	2S / 4S	2S / 4S
	Memory Slots	18 x DDR3	32 x DDR3	32 x DDR3
	Availability	DIMM Sizes	1, 2, 4, 8 GB	1, 2, 4, 8 GB
Expansion Slots		1 x 4 and 3 x 8 PCIe Mezzanine Cards	6 x PCIe 5 x 8 1 x 4	4 x 8 PCIe Mezzanine Cards
Integrated NICs		4 x TOE with optional iSCSI offload	4 x LOM (5709)	4 x TOE – iSCSI offload optional
Expandability	HDD	4 x 2.5"	6 x 2.5"	2 x 2.5"
	HDD	Hot Plug	Hot Plug	Hot Plug
		SAS, SSD	SAS, SSD	SAS, SSD
Management	Integrated Mgmt	iDRAC6 Enterprise	iDRAC6 Enterprise	iDRAC6 Enterprise
	Persistent Storage	Yes, Managed	Yes, Managed	Yes, Managed



PowerEdge M710HD

		Previous	Latest
Performance		PowerEdge M610	PowerEdge M710HD
	Form Factor	Half Height Blade, Single Slot	Half Height Blade
	Chipset	Tylersburg	Tylersburg
	Processor	Nehalem-EP Westmere-EP	Westmere-EP
	Socket	2S	2S
	Memory Slots	12 x DDR3	18 x DDR3
Availability	DIMM Sizes	1, 2, 4, 8, 16 GB	1, 2, 4, 8, 16 GB
	Expansion Slots	2 Mezzanine Cards – 4 High Speed Ports	2 Mezzanine Cards – 4 High Speed Ports
	Integrated NICs	2 x GbE TOE	4 x GbE TOE on daughter card with future options
Expandability	HDD	2x 2.5"	2 x 2.5"
	HDD	Hot Plug	Hot Plug
		SAS, SATA, SSD	SAS, SSD
Management	Integrated Mgmt	BMC+DRAC 5	Advanced Manageability
	Persistent Storage	Yes, Unmanaged	Yes, Managed
	Security	TPM 1.2	TPM 1.2



PowerEdge M610x

		Previous	Latest
Performance	Form Factor	Half Height Blade, Single Slot	Full Height Blade, Dual Slot
	Chipset	Tylersburg	Tylersburg
	Processor	Nehalem-EP Westmere-EP	Westmere-EP
	Socket	2S	2S
	Memory Slots	12 x DDR3	12 x DDR3
	DIMM Sizes	1, 2, 4, 8, 16 GB	1, 2, 4, 8, 16 GB
Availability	Expansion Slots	2 Mezzanine Cards – 4 High Speed Ports	2 Mezzanine Cards – 4 High Speed Ports + 2 x16 PCIe slots
	Integrated NICs	2 x GbE TOE	2 x GbE TOE
	HDD	2x 2.5"	2 x 2.5"
Expandability	HDD	Hot Plug	Hot Plug
	HDD	SAS, SATA, SSD	SAS, SATA, SSD
Management	Integrated Mgmt	BMC+DRAC 5	Advanced Manageability
	Persistent Storage	Yes, Unmanaged	Yes, Managed
	Security	TPM 1.2	TPM 1.2



PowerEdge M710

		Previous	Latest
Performance		PowerEdge M600	PowerEdge M710
	Form Factor	Half Height Blade, Single Slot	Full Height Blade, Dual Slot
	Chipset	Greencreek	Tylersburg
	Processor	Harpertown, Wolfdale	Nehalem, Westmere-EP
	Socket	2S	2S
	Memory Slots	8 x FBD	18 x DDR3
Availability	DIMM Sizes	512 MB, 1, 2, 4, 8 GB	1, 2, 4, 8 GB
	Expansion Slots	2 Mezzanine Cards – 4 High Speed Ports	4 Mezzanine Cards – 8 High Speed Ports
	Integrated NICs	2 x TOE	4 x TOE
Expandability	HDD	2 x 3.5" or 2x 2.5"	4 x 2.5"
	HDD	Hot Plug	Hot Plug
		SAS, SATA, SSD	SAS, SATA, SSD
Management	Integrated Mgmt	BMC+DRAC 5	Advanced Manageability
	Persistent Storage	Yes, Unmanaged	Yes, Managed
	Security	TPM 1.2	TPM 1.2



PowerEdge M610

		Previous	Latest
Performance		PowerEdge M600	PowerEdge M610
	Form Factor	Half Height Blade, Single Slot	Half Height Blade, Single Slot
	Chipset	Green creek	Tylersburg
	Processor	Harpertown, Wolfdale	Nehalem, Westmere-EP
	Socket	2S	2S
	Memory Slots	8 x FBD	12 x DDR3
Availability	DIMM Sizes	512 MB, 1, 2, 4, 8 GB	1, 2, 4, 8, 16 GB
	Expansion Slots	2 Mezzanine Cards – 4 High Speed Ports	2 Mezzanine Cards – 4 High Speed Ports
	Integrated NICs	2 x TOE	2 x TOE
Expandability	HDD	2 x 3.5" or 2 x 2.5"	2 x 2.5"
	HDD	Hot Plug	Hot Plug
		SAS, SATA, SSD	SAS, SATA, SSD
Management	Integrated Mgmt	BMC+DRAC 5	Advanced Manageability
	Persistent Storage	Yes, Unmanaged	Yes, Managed
	Security	TPM 1.2	TPM 1.2



PowerEdge C Portfolio

Full customer presentation is available at: <http://salesedge.dell.com/doc?id=0901bc82802d74e7&ll=sr>



Dell PowerEdge C: Purpose-Built for Customers with IT as the Engine for Their Business

Hyperscale-Inspired

Dell leveraged its expertise in custom-built hyperscale computing and combined it with high-production volume to bring ultra-dense, high-performance, efficient solutions to high-performance computing (HPC), Web 2.0 and cloud-building organizations

Right Combination

It's not just about gigahertz and gigabytes; it's about having the right combination for your environment. With the PowerEdge C line, you don't have to sacrifice. You can maximize density, memory and serviceability while reducing total cost of ownership

Everything You Need, Nothing You Don't

PowerEdge C servers are best for large, homogenous cloud/cluster application environments where availability resides predominantly in the software stack. Dell doesn't add features you don't need, like extensive systems management, broad enterprise storage or same-day support

Get Results

Get the speed you need in the least amount of space, along with greater energy efficiency to slash operational costs in your hyperscale environment



Hyperscale-Optimized PowerEdge C Servers

1U 2S RACK
POWEREDGE C1100



2U 2S RACK
POWEREDGE C2100

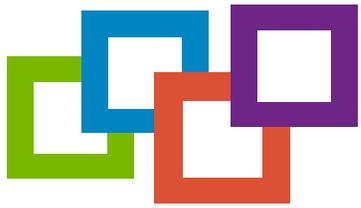


2U SHARED
INFRASTRUCTURE
POWEREDGE C6100



- **Purposeful Design** for HPC, Web 2.0, gaming and cloud building
- **The Right Combination** of density, memory and serviceability while saving power, saving space, energy, weight and costs
- **Best** for rack-deployments, large homogenous cloud/cluster application environments where the software stack provides platform availability and resiliency
- **Without** features you don't need like comprehensive systems management, broad enterprise storage, nor same-day support

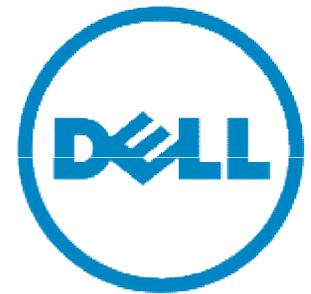




Storage solutions for the efficient data center

Presenter Name

Title



Dell is **serious** about **storage**...

Nov 2007

- Announced acquisition of EqualLogic

May 2010

- Announced acquisition of Exanet

July 2010

- Hit \$1B in EQL sales
- Announced acquisition of Ocarina

February 2011

- Completed acquisition of Compellent
- EqualLogic customers exceed 28K (10x increase since acquisition)



November 2009

- Launched EqualLogic 10GbE

June 2010

- Launched Dell DX Object Storage Platform for archiving
- Launched EqualLogic XVS hybrid arrays

August 2010

- Launched medical record archive solutions



Dell's **POV** on storage

Next gen SANs are driving profound increases in storage **efficiency**

Innovation through storage **virtualization/automation**

Virtualization of storage creates long-term investment protection

Eliminate fork-lift upgrades; realize seamless **scalability**

The storage **fabric** is no longer what differentiates products

iSCSI/10GbE is the enabler

Storage optimization will deliver measureable results

Tiered storage gives back **up to 50%** of your costs

Intelligent Data Management will turn data into a strategic asset

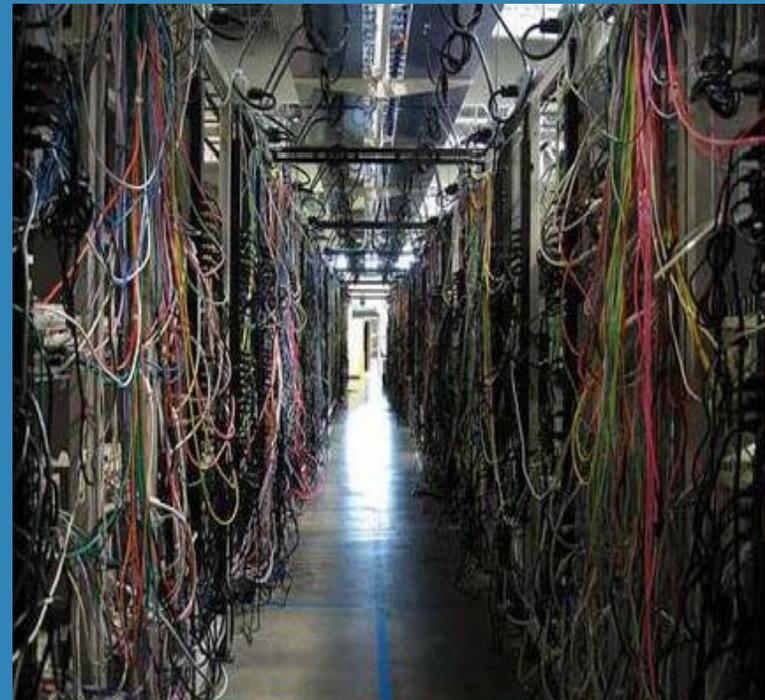
Keep more data online while reducing costs

Storage efficiency is a requirement for data center efficiency

Storage represents almost **20%** of IT infrastructure spend

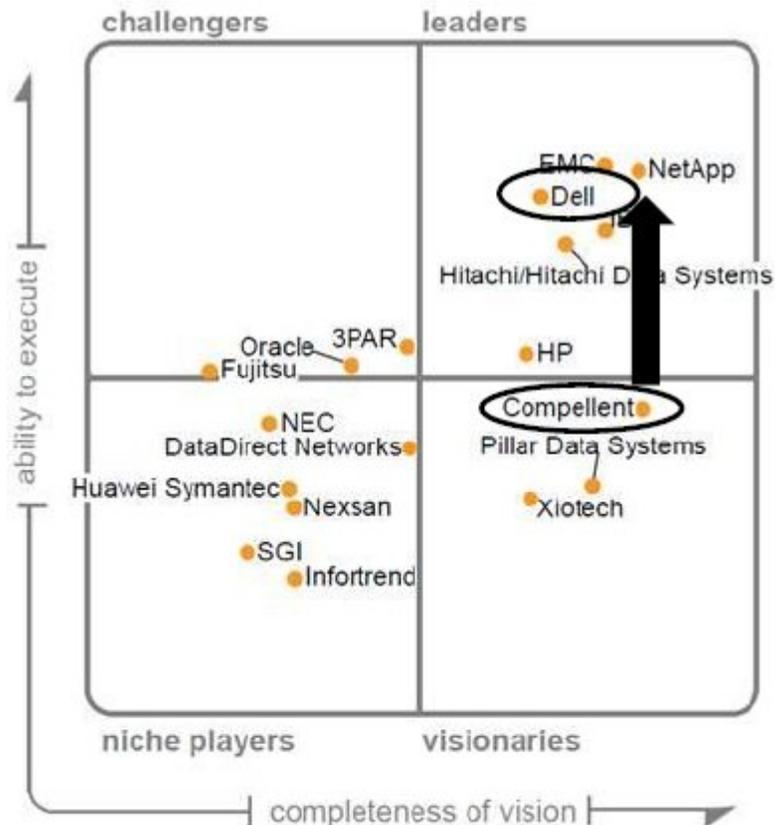
Labor makes up **60%** of the cost of storage

- 15% of backups & 40% of restores **fail** – 70% of backup costs are labor related
- Planned downtime for storage system can take **weeks**
- **Only 16%** workloads are virtualized
- **Over 30%** of installed storage is directly attached to servers
- FC SANs **TCO is 3X** iSCSI SANs
- Useful life of most unstructured data is **3 weeks** yet remains on tier 1 storage



...and it shows in analyst and market share numbers

Gartner – Leaders Quadrant*



#1 iSCSI Vendor

Vendor	Market Share**
Dell	35.5%
EMC	13.8%
HP	13.7%
NetApp	11.6%
IBM	3.6%

*Gartner Magic Quadrant for Mid-Range and High-End Disk Modular Arrays
 **As of Q3 2010 from IDC;

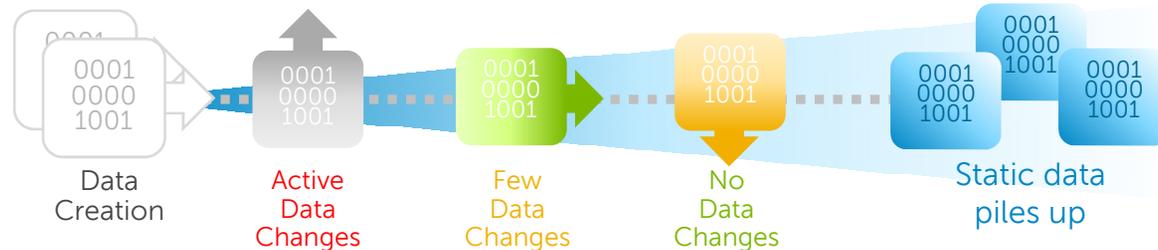


Dell Data Management Vision

Customer's Challenge

The **value**, **volume** and **velocity** of data is changing

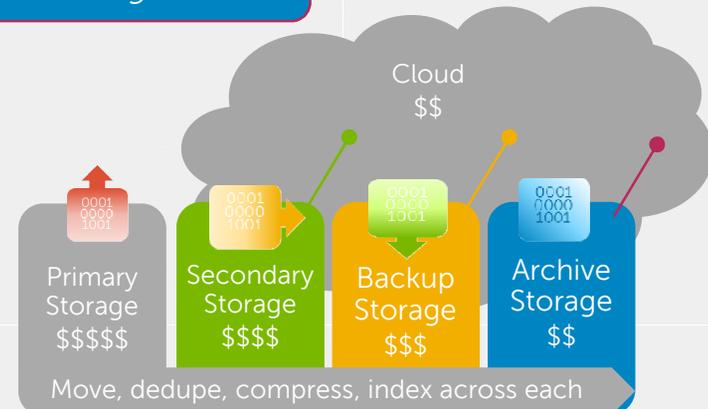
- Keep more data on-line
- Quickly find data when needed
- Control costs



Dell Data Management Vision

The right data on the right storage at the right cost

- **Automation:** *Manage more with less*
 - Integrated with and adapts to virtual environments
 - Moves data by policy across tiers or to cloud saving time
 - Easily find data through index and search
- **Optimization:** *Store more on less*
 - Tier in the array or across arrays saving costs
 - Dedupe and compress across tiers saving space
 - Put data on the right storage at the right time
- **Seamless Scale:** *Scale more for less*
 - Buy what's needed – grow seamlessly later
 - Avoid fork lift upgrades & data migration headaches
 - Take the guess-work out of planning



Store

- Compellent
- EqualLogic
- PowerVault MD
- PowerVault NX

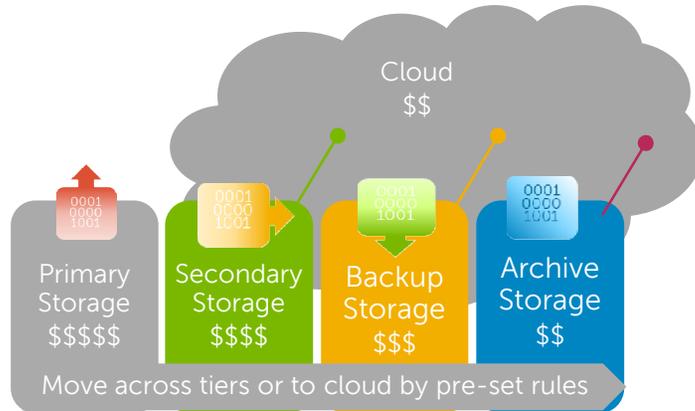
Protect

- DX Archive Store
- DL Backup to Disk
- TL Tape
- ML Tape Library



and it is different

Dell Fluid Data Architecture *Automated and cost-effective*



Store

- Compellent
- EqualLogic
- PowerVault MD
- PowerVault NX

Protect

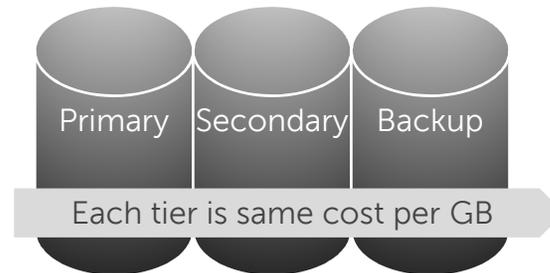
- DX Archive Store
- DL Backup to Disk
- TL Tape
- ML Tape Library

The Dell Difference:

- **Automate** for 75% less management time than the Legacy guys
- **Optimize** and use up to 90% less space than the Legacy guys
- **Scale seamlessly** and stop guessing about future needs or overbuying

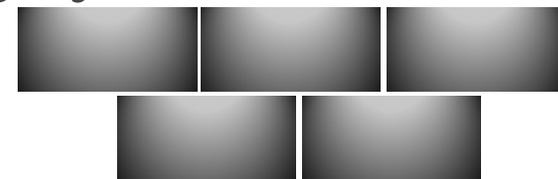
Competitors *Complex and expensive*

Legacy idea #1



- **The Product:** Big-Iron Fibre Channel Arrays
- Guess at what size array you'll need in 5 years
- Special functions like dedupe require new devices
- Must fork-lift upgrade to new products

Legacy idea #2



- **The Product:** Unified Array (File & Block)
- At 50% full array performance is slow so buy another array
- No tiering nor plans for tiering
- Overcome objections with guarantees

Delivered with a complete portfolio

EqualLogic

- **Virtualization & consolidation**
 - Modular, scale-out needs
- **Business applications**
 - Exchange, SQL, SharePoint, Oracle
- **Mid-size solutions**
 - Project or Application specific
 - Multi-SAN deployment options
- **Migrating off proprietary solutions**

Compellent

- **Virtualization & Consolidation**
 - Multi-Protocol Requirements (iSCSI, FC, FCoE)
- **Enterprise applications**
 - Large content stores, BI / DW / DSS
 - Larger scale Business Applications (Exchange, SQL, Sharepoint, Oracle)
- **Larger scale enterprise solutions**
 - Core data storage
 - Serving many applications, high SLAs



DX Object Storage

- Moving **static content** off primary
- **Archive solutions**
- **Retention, compliance and discovery**
 - Business and/or regulatory requirements
- **Fixed, unstructured content**
 - Multi-media, video, audio, images

PowerVault

- **Entry-level iSCSI SANs** (sub \$10K)
- **PE/DCS direct-attached storage**
- **Disk-based backup** w/ deduplication
 - Powered by Symantec and CommVault
- **Tape storage** for long-term, off-site backup requirements



EqualLogic and Compellent: A Complementary Portfolio

Foundational across EqualLogic and Compellent

- Virtualized storage
- Built-in automation
- Simplified management
- Seamless scalability (no fork-lift upgrades)
- Hypervisor and app. integration
- Advanced data protection
- Exceptional TCO

Compellent

- Advanced Tiering
- Multi-protocol: FC, iSCSI, FCoE
- Large-Scale Deployments: 1000s of drives

EqualLogic

- Automated Tiering
- All inclusive features
- Moderate-Scale Deployments: 100s of drives

Dell EqualLogic

Intelligent, seamlessly expandable virtualized iSCSI SAN

Virtual storage architecture enables:

- Efficient Enterprise Scalability
 - Seamless scaling of both performance and capacity
 - Investment protection – no fork-lift upgrades
 - Powerful & Simplified Management
 - Intelligent and
 - Automated management
 - Perpetual self-optimization
 - Automated load balancing across disks, RAID sets, connections, cache and controllers
- All inclusive functionality
 - Enterprise software capabilities included, no add-on licenses



EqualLogic can provide storage management manpower savings of 45 days/year "

- ESG



Dell Compellent

FLUID DATA REDEFINES THE DATA CENTER

OPTIMIZING EFFICIENCY, AGILITY AND RESILIENCY FOR ENTERPRISES AND THE CLOUD



Efficient

Never forklift upgrade again

Intelligent

Slash storage costs up to 80%

Safe

Recover instantly, replicate in minutes

Simple

Storage as promised, no excuses

Responsive

Zero touch management

Storage Center Hardware

- Supports file and block (FC, iSCSI, NFS, CIFS)
- Scale up and out from TBs to PBs

Drives supported

- FC, SATA, SAS, Solid State

Storage Center Software

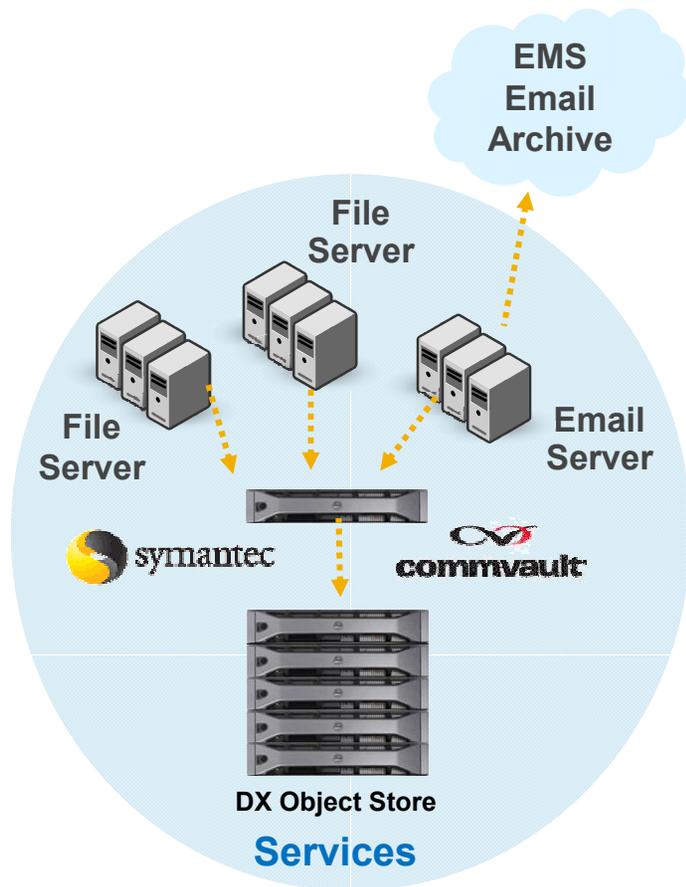
- Automated tiered storage
- Advanced thin provisioning
- Intelligent storage automation
- True storage virtualization
- Continuous snapshots
- Thin replication



Dell Email and File Archive Solution

Dell Email and File Archive

Dell's Archive Solution for Unstructured Data



Designed For

- + Optimization
- + Compliance / eDiscovery

On-Premise Solution

- + DX Object Storage or Equallogic
- + Dell PowerEdge servers
- + Best of Breed Software; choice of CommVault Simpana or Symantec Enterprise Vault
- + Consulting & Implementation Services to help architect and deploy solution
- + End-to-End support for Solution

Cloud Solution

- + Dell EMS (Email Management Services) – email archive, continuity, and security

Data Migration

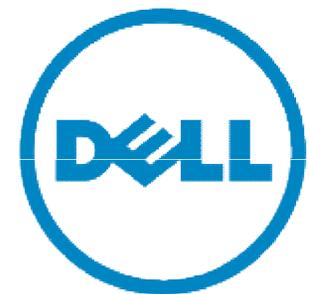
- + Services to plan & facilitate migration to newly implemented file and email archiving solution

What storage efficiency can look like with Dell



- **55% lower TCO** with virtualized SAN
- **50% cost savings** with tiered storage
- **75% faster** storage deployments
- **55% reduced** backup times
- **70% improved** recovery times
- **76% savings** on storage network costs by converging on 10GbE iSCSI SANs
- **Improved restores** with integrated application & VM level protection

Dell PowerConnect Networking Solutions



Networking PG
April 2011

Dell Confidential

Dell's Networking Background

Building a Foundation from Campus to Data Center

- 2011** ↑ - Dell Ranks 4th in Fixed-Port Ethernet Switching¹
- 2010 - Dell Expands PowerConnect Family with Brocade, Juniper, and Aruba solutions
- 2009 - First all 10Gb PowerConnect Switch Launches
- Dell Ranks Top 10 in Fixed-Port Ethernet Switching²
- 2008 - PoE and Fiber Stackable switches
- 2007 - First Layer 3 Stackable Family
- 2006 - First Layer 3 Routing Family
- 2005 - First Stackable Family
- 2004 - First all 1Gb PowerConnect switch
- 2003 - First all 1Gb PowerConnect switch
- 2002 - First all 1Gb PowerConnect switch
- 2001 - Dell Launches PowerConnect with Unmanaged and Web-Managed Switches

¹: Dell'Oro Q4'10 report
²: Dell'Oro Q1'09 report



Business Challenges with Networking

What Business leaders tell Dell



Massive data traffic growth

Business Inefficiencies

Complex networks / management

Application delivery and productivity

Soaring operating costs

Business Challenges with Networking

What IT tells Dell

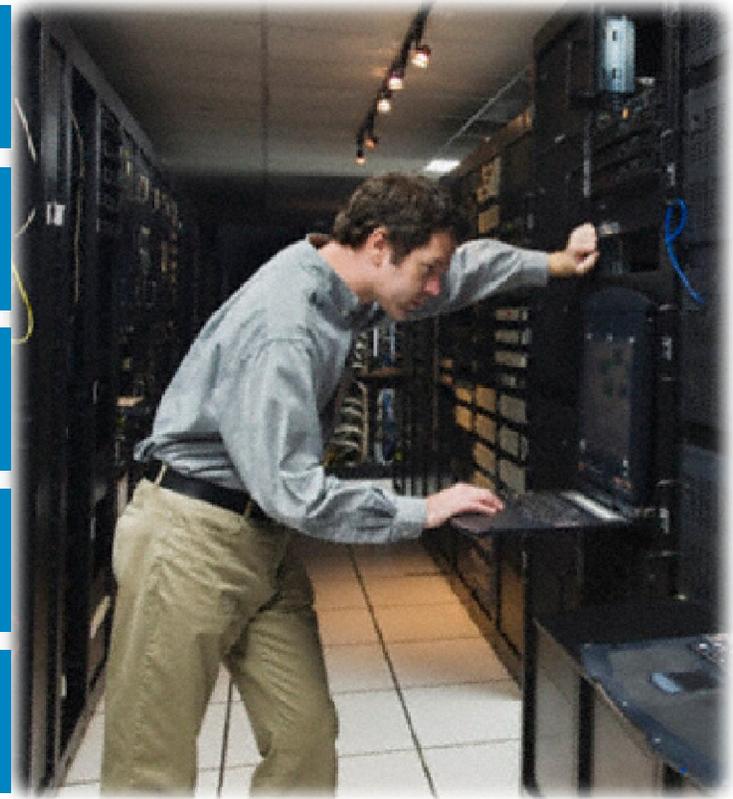
SAN and LAN traffic explodes

Addressing SLA's to meet demand

Complex networks / management

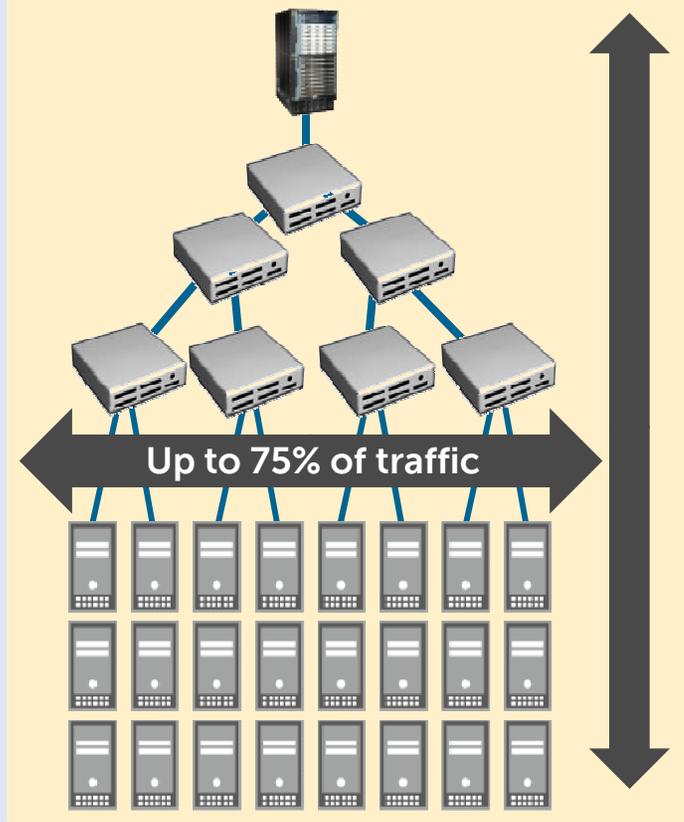
Virtualization and Security planning

Imbalance of productivity and OPEX



The multi-tier legacy network is a barrier

Multi-tier legacy network



Core = Intelligence

Unnecessary layers add hops and latency

Up to 50% of the ports interconnect switches, not servers or storage

Spanning Tree disables up to 50% of bandwidth

The challenge

- Too slow
- Too complex
- Too expensive

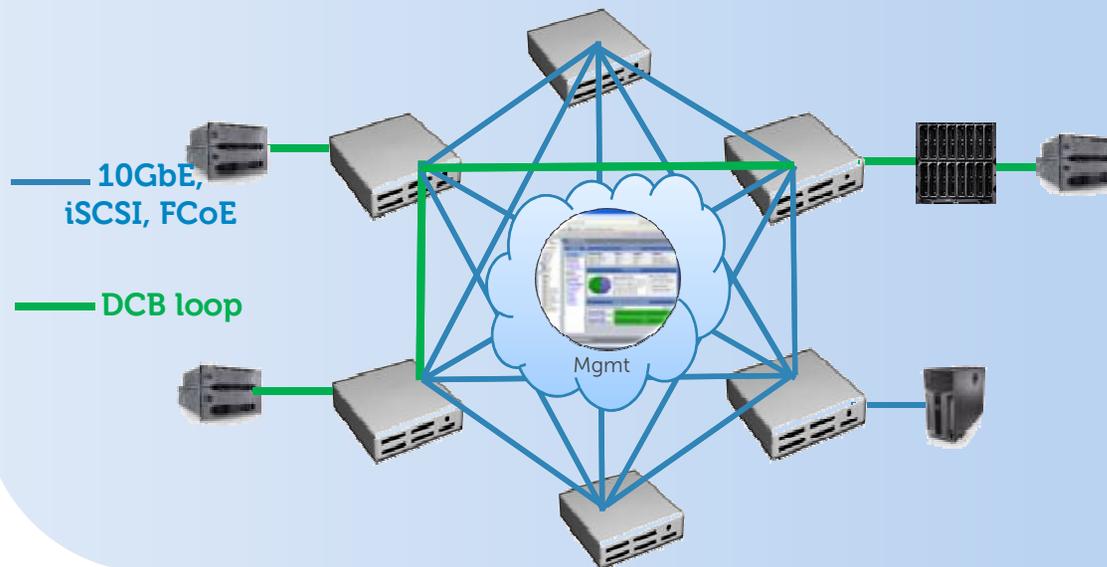
Future Data Center network efficiency

PowerConnect evolves to Flat, unified delivery fabric



The new network is

- Faster
- Simpler
- Less Expensive



Smart-edge management

Network flattening

Multi-path, deterministic network

Enables faster failover, resiliency, self-optimizing network

Best-of-breed partners expand data center and campus LAN solutions while offering choice

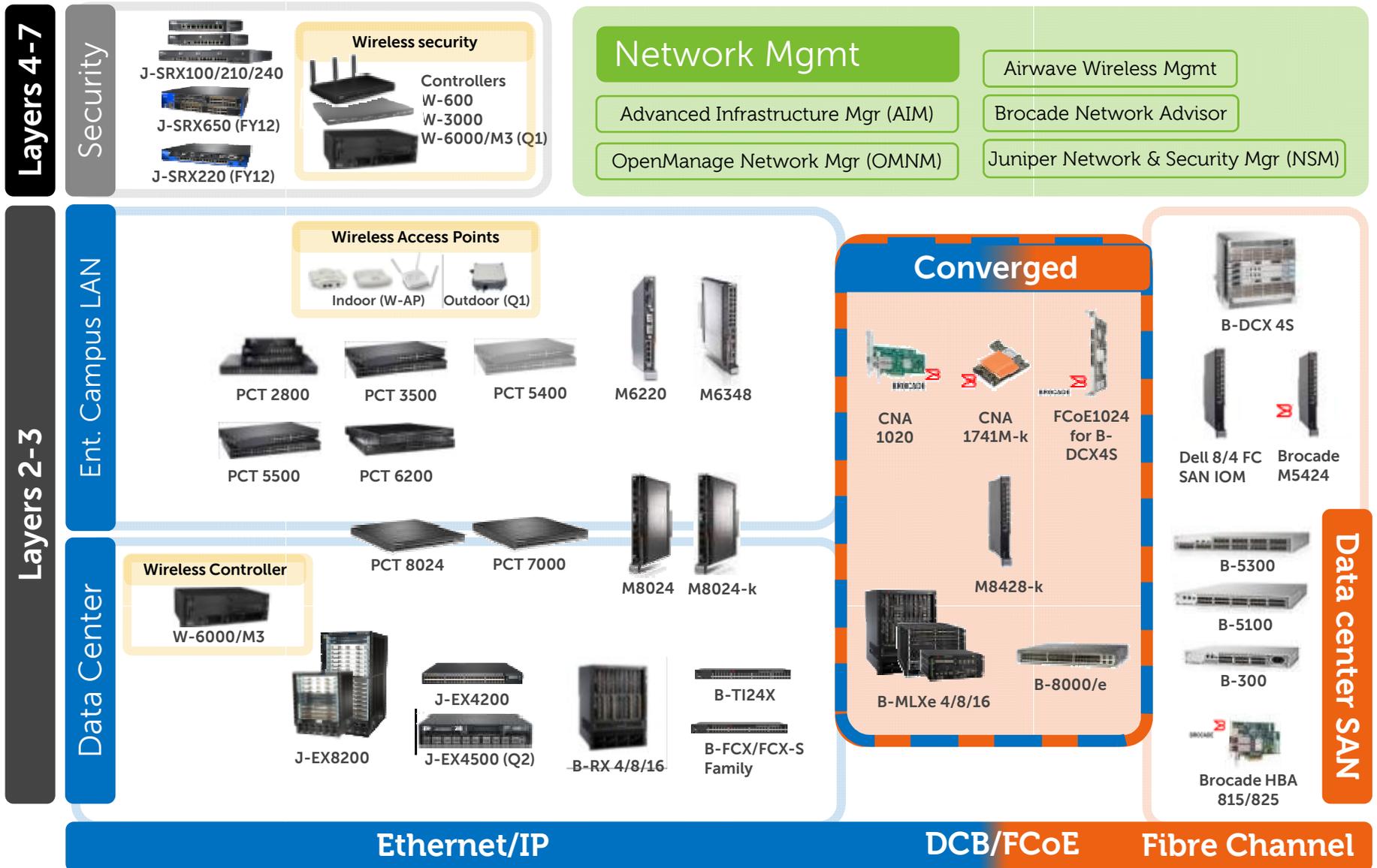
PowerConnect Family

PowerConnect Switches	<ul style="list-style-type: none">• Comprehensive fixed-port and blade family with unique capabilities including iSCSI optimization• High Performance, scalability and TOR solutions for Data Center, edge and campus
Brocade (B-Series)	<ul style="list-style-type: none">• Storage leader in SAN & Fibre Channel delivery and capability• Convergence-leader with Unified Fabric, iSCSI and FCoE solutions
Juniper (J-Series)	<ul style="list-style-type: none">• Industry-leading portfolio of LAN, WAN, security and OS / Management solutions• High availability & performance, scalable building blocks for Data Center and Enterprises
Aruba (W-Series)	<ul style="list-style-type: none">• Leader in infrastructure and scalable WLAN solutions• Market leading ease-of-use manageability and edge access solutions

Dell Services for Networking



Networking product overview



Thank You!

